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UNIVERSITY OF TORONTO

President's Report

FOR THE YEAR ENDING
30TH JUNE, 1942

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President's Report

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FOR THE YEAR ENDING
30TH JUNE, 1942

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TABLE OF CONTENTS

REPORT OF THE PRESIDENT 1

REPORTS

Faculty of Arts 19
Principal of University College 19
Faculty of Medicine 20
Faculty of Applied Science and Engineering 25
Faculty of Household Science 28
Ontario College of Education 28
Faculty of Forestry 29
Faculty of Music 29
School of Graduate Studies 31
Faculty of Dentistry 32
Faculty of the School of Law 33
School of Physical and Health Education 35
School of Social Work 36
School of Nursing 37
School of Hygiene 39
University Extension and Publicity 42
The Library 44
David Dunlap Observatory 44
Royal Ontario Museum of Archaeology 45
Royal Ontario Museum of Geology 46
Royal Ontario Museum of Mineralogy 47
Royal Ontario Museum of Palaeontology (Invertebrate Section) 47
Royal Ontario Museum of Palaeontology (Vertebrate Section) 48
Royal Ontario Museum of Zoology 49
Educational Work of the Royal Ontario Museum 50
Institute of Child Study 52
Connaught Laboratories 53
Hart House 58
University Health Service 62
Medical Adviser for Women 63
Athletics and Physical Training (Men) 64
Physical Training for Women 67
Women's Athletic Association 68
University of Toronto Contingent Canadian Officers' Training Corps 70
Students' Administrative Council 74
University of Toronto Press 76

RESEARCH

FACULTY OF ARTS

Applied Mathematics 78
Astronomy 78

Botany ... 79
Chemistry ... 81
Geology and Palaeontology ... 81
Mineralogy and Petrography ... 82
Physics ... 82
Psychology ... 83
Zoology ... 83

FACULTY OF MEDICINE
Anatomy ... 86
Biochemistry ... 86
Hygiene and Preventive Medicine ... 87
Medicine ... 89
Medical Research ... 90
Paediatrics ... 92
Pathological Chemistry ... 93
Pathology and Bacteriology ... 93
Pharmacology ... 94
Physiology ... 94
Psychiatry ... 97
Surgery ... 97

FACULTY OF APPLIED SCIENCE AND ENGINEERING
Applied Physics and Civil Engineering ... 98
Chemical Engineering ... 98
Mechanical Engineering ... 99
Metallurgical Engineering ... 99

FACULTY OF HOUSEHOLD SCIENCE
Food Chemistry ... 99
Household Science ... 100

FACULTY OF DENTISTRY ... 100

PUBLICATIONS ... 101

REPORT OF THE REGISTRAR ... 121

REPORT OF THE PRESIDENT

To the Governors of the University of Toronto:

GENTLEMEN:

I have the honour to present my eleventh annual report on the academic work of the University and University College, for the year ending on the 30th of June, 1942, together with detailed reports of the various faculties, schools, and official organizations of the University:

INTRODUCTION

Our general programme of teaching, research, and military training has been carried on through the third year of the war. We now realize the strength of our enemies, the ruthlessness and cruelty of their "new order," and the stern fatefulness of the conflict. It is a "life and death struggle"; it is also a struggle between life and death, between all that makes for a worthy life and all that tends to individual and national degradation and death. Universities, we see, can live and flourish only in the lands of freedom and in the atmosphere of ordered liberty.

The general spirit of the student body has been one of earnestness, seriousness, and hard work. There has been little waste of time, energy, or money. Undergraduates have realized that it is a privilege to be allowed to attend the University in these days, and that this privilege brings a weighty responsibility. The University is no safe retreat for any who seek to avoid their solemn obligations to serve their country; it is a place of training where men and women alike are being prepared for the better discharge of these obligations to defend human freedom and human decency. Military training was prescribed for all male students of military age and special physical training for those under the age. Courses in war-aid were carried on for women and next year will be enlarged and made compulsory for all. Never were universities made more directly responsible for the nation's war effort than they are today, and never, I believe, was a more whole-hearted answer given. Active military service has been postponed for students only on condition that they combine military and academic work at the University with a view to more adequate training for service in the near future. The necessary social activities of the students have been made simple, inexpensive, and informal. There has been little time for many social interruptions of necessary work. When the academic year ended, we realized afresh how many of the men graduating were entering the armed forces, as men by the score presented themselves for degrees wearing the uniform of active service. The list of casualties among our men on service grows steadily longer. Men whom we knew in college halls have given all that men can give—life itself —to the great cause. These things have brought new thoughtfulness into the lives of all. No one can look at life as he looked at it three or four years ago. There is a new questioning of the meaning and the purpose of life. Religion more obviously takes its place as the background of our educational process.

I regret to chronicle the death on April 1, 1942, of Mr. J. McGregor Young, M.A., LL.B., K.C., one of the Governors of the University. He was a distinguished graduate and for many years a teacher on the staff of this University, as Professor of Constitutional History. He held the office of Public Trustee until his retirement from active practice. He was a brilliant conversationalist and wit, as well as a widely read jurist.

ATTENDANCE

The total number of students enrolled was 7,198, of whom 4,705 were men (last year 4,774) and 2,493 women (last year 2,951). The number of students proceeding to degrees was 6,179 and to diplomas 870. Of the students in attendance, 3,660 came from Toronto, and 2,647 from other parts of the Province of Ontario. Every county is represented and every province in Canada. In addition to the number mentioned above, there were in the School of Nursing 1,528 women enrolled for short special and refresher courses; and in the Faculty of Education 141 persons who were exempted from attendance and admitted to the final examinations. There is, as was rightly to be expected, a decrease in the number of men in Arts and an increase in the number of women; but the decrease in male students in Arts was counter-balanced by the increase in registration in Medicine, Dentistry, and Engineering, because the government has called for an increased number of medical men, dentists, and engineers for the armed forces and for industry. To students who return after over eight months' military service, the government will make generous payments for a period of academic training equal to the service, in order that they may finish their interrupted courses. We may therefore look forward to a large influx of soldier-students when once demobilization begins. Our resources of teachers and accommodation are likely to be taxed to the utmost.

THE STAFF

In the University and University College the total staff numbered 990, of whom 135 were professors, 79 associate professors, 101 assistant professors. The teaching staff in the federated colleges numbered 91. The grand total in the whole University is thus 1,081.

The following members of our staff have died during the year:

C. H. Mitchell—Dean Emeritus of the Faculty of Applied Science and Engineering—August 26, 1941;

Peter Sandiford—Professor of Educational Psychology and Director of Educational Research—October 12, 1941;

R. D. Rudolf—Professor Emeritus of Therapeutics—November 2, 1941;

H. A. McTaggart—Professor of Physics—November 12, 1941;

W. J. Smither—Professor of Structural Engineering in the Department of Engineering Drawing—January 18, 1942.

All these rendered long and efficient service to the University, and by teaching and character left a lasting impress on the successive generations of students.

The following member of the staff retired:

H. A. Grainger—Instructor in the University of Toronto Schools.

The following member of the staff resigned his position:

Ross Taylor—Associate Professor in the Department of Mechanical Engineering.

Leave of absence for the session was granted to the following:

Faculty of Arts: Richard Brauer, Assistant Professor of Mathematics; E. W. McInnis, Associate Professor of History.

Faculty of Medicine: A. A. Fletcher, Associate in Medicine; A. B. Le Mesurier, Associate in Surgery (for six months).

Ontario College of Education: Miss B. Bassam, Assistant Professor in Library Science in the Library School.

Leave of absence for the duration of the war was granted to the following:

Faculty of Arts: S. N. F. Chant, Professor of Psychology; J. F. Embree, Assistant Professor of Anthropology; G. deT. Glazebrook, Associate Professor of History; W. Line, Associate Professor of Psychology; J. F. Parkinson, Assistant Professor of Political Economy.

Faculty of Medicine: James Campbell, Assistant Professor of Physiology; B. F. Crocker, Lecturer in Biochemistry; E. T. Waters, Associate Professor of Physiology.

Faculty of Applied Science and Engineering: B. de F. Bayly, Associate Professor of Electrical Engineering.

Faculty of Dentistry: W. D. Cavanagh, Associate in Dentistry; L. A. Kilburn, Associate Professor of Dental Praxis; W. G. McIntosh, Associate in Periodontology; R. L. Twible, Associate in Dentistry.

School of Hygiene: H. M. Barrett, Assistant Professor of Physiological Hygiene.

Leave of absence for one year was granted the following:

Faculty of Arts: E. A. Bott, Professor of Psychology; C. R. Myers, Assistant Professor of Psychology and in charge of Psychological Investigation in the Department of Psychiatry.

The following promotions were made:

Faculty of Arts

Heads of Departments—H. S. Jackson, Botany; W. C. White, Chinese Studies.

Professors—C. A. Ashley, Political Economy; D. L. Bailey (part-time), Botany; L. C. Coleman (part-time), Botany; G. H. Duff, Botany; H. B. Sifton, Botany; G. F. Wright, Chemistry.

Associate Professors—F. R. Crocombe, Political Economy; D. J. McDougall, History; E. W. McInnis, History.

Assistant Professors—Miss E. J. Allin, Physics; J. M. Anderson, Physics; A. E. Birney, English; Miss K. M. Crossley, Physics; J. E. M. Hancock, Law (also in School of Law); Miss F. M. Quinlan, Physics.

Faculty of Medicine

Heads of Departments and Professors—W. W. Wright, Ophthalmology; A. A. Campbell, Oto-Laryngology.

Assistant Professor—J. Campbell.

Faculty of Applied Science and Engineering

Dean—C. R. Young.

Associate Professor—B. de F. Bayly, Electrical Engineering.

Assistant Professors—R. J. Brown, Electrical Engineering; W. E. Carswell, School of Architecture.

Faculty of Household Science

Assistant Professor—Miss J. S. Roberts, Household Science.

Ontario College of Education

Assistant Professor—E. L. Daniher.

Faculty of Forestry

Dean and Professor—G. G. Cosens.

Professor—T. W. Dwight.

Associate Professor—R. C. Hosie.

School of Social Work

Director and Associate Professor—S. K. Jaffary.

Associate Director and Associate Professor—Miss A. C. McGregor.

Assistant Professor—Miss B. M. Finlayson.

The following new appointments were made:

Faculty of Arts

Visiting Professor in Political Economy—J. H. Richardson of the University of Leeds, England.

Associate Professor—T. W. Cook, Psychology.

Assistant Professor—J. F. Embree, Anthropology.

Lecturers—M. W. Bannan, Botany; Miss D. F. Forward, Botany; D. H. Hamly, Botany; N. W. Radforth, Botany; Mrs. P. M. Marrian, Chemistry.

Faculty of Applied Science and Engineering
Assistant Professor—M. W. Huggins, Civil Engineering: Municipal and Structural.
Lecturers—A. M. Fitzgerald, Chemical Engineering; C. E. Helwig, Civil Engineering: Municipal and Structural; R. G. Hillier, Mechanical Engineering.
Faculty of Dentistry
Associate—W. G. McIntósh, Periodontology.
School of Physical and Health Education
Director of the School and Professor—E. S. Ryerson, Health Education.
Associate Professors—H. A. Cates, Functional Anatomy; A. W. Ham, Functional Anatomy; D. Y. Solandt, Applied Physiology.
Assistant Professors—Miss J. M. Forster, M. G. Griffiths, R. E. Haist, Miss D. N. R. Jackson, Miss F. A. Somers, W. A. Stevens.
Associates—J. E. McCutcheon, Miss S. E. Naylor.
School of Hygiene
Associate Professor—W. Mosley, Public Health Administration in Epidemiology and Biometrics.
Assistant Professors—H. M. Barrett, Industrial Hygiene in Physiological Hygiene; R. E. Haist, Physiological Hygiene.
University Health Service
Director—R. W. I. Urquhart.

The following honours were conferred upon members of the staff:

Professor R. W. Angus, given the George Warren Fuller Award of the American Water Works Association.

Professor F. C. Auld, appointed Chairman of the Canadian Bar Association's Committee on Comparative Law.

Professor C. H. Best, awarded the Baly Medal of the Royal College of Physicians, England, and elected honorary member of the Royal Society of Medicine, London.

Professor J. Finkelman, appointed Secretary of the Canadian Bar Association's Committee on Legal Education.

Dean W. E. Gallie, elected President of the American College of Surgeons.

Professor F. S. Hogg, re-elected President of the Royal Astronomical Society of Canada.

Professor L. Infeld, received the John Anisfield Award in literature.

Professor K. B. Jackson, selected a member of the "Light in Wartime" Committee of the Illuminating Engineering Society.

Professor W. P. M. Kennedy, appointed a member of the Attorney General's Committee on Law Reform.

Professor T. F. McIlwraith, elected President of the Royal Canadian Institute.

Professor T. J. Meek, Visiting Professor of Oriental Languages in the University of Chicago, spring quarter, and elected President of the American Oriental Society.

Mr. W. S. Wallace, elected President of the Ontario Library Association.

Lieutenant-Colonel W. S. Wilson, elected Chairman of the Toronto Branch of the Engineering Institute of Canada.

Dean C. R. Young, elected President of the Engineering Institute of Canada.

GENERAL WORK OF THE UNIVERSITY

The reports of departments which are appended deserve careful reading. They show something of the extent and variety of the University's activity. I shall here draw attention only to some of the new features which have marked the academic year:

1. The heavy drafts on our teaching staff for expert service in government departments. The staff in Psychology, for example, has been called upon to supply personnel experts in Great Britain and in the Army and Air branches of the services in Canada; in consequence it is seriously depleted in numbers. The same is true of the medical staff, particularly in the clinical departments.

2. The acceleration of the medical course.

3. The generous system of loans made by the Dominion government and by the Kellogg Foundation to enable students in Medicine, Engineering, Dentistry, and Pure Science to carry on their studies, and the enlistment of senior students in Medicine and Dentistry in the armed forces.

4. The establishment of a limit to the number of students who can be admitted to the first year in Medicine, owing to the impossibility of providing adequate clinical facilities for them later on in their course.

5. A great development of the Health Service for all students in the University.

6. The revised curriculum in the Faculty of Engineering, and the large increase in the number of students registered therein.

7. The large practice forest of 7,000 acres now available for students in the Faculty of Forestry.

8. The successful working of the union of the Margaret Eaton School with our School of Physical and Health Education.

9. The prospective demands on the School of Social Work in connection with organizations for social welfare.

10. The establishment of the degree of Bachelor of Science in Nursing, and the large number of intensive refresher courses in that School.

11. The establishment of the degree of Doctor Juris in the School of Law.

12. In the School of Hygiene, new sub-departments of Virus Studies and Public Health Administration.

13. The great variety and development of courses under the Department of University Extension, and its work of vocational guidance. The establishment of evening classes in Industrial Chemistry, Physics, French, and Psychology for employees of large industrial companies. For the first time graduates in the certificate course in Business.

14. Increase in volumes in the Library to 404,081, and in pamphlets to 147,247.

15. Improved photographs in the Dunlap Observatory owing to aluminizing of the surface of the large mirror.

16. Excavation work at Fort Ste. Marie near Midland, by the Museum staff.

17. Collection of unusual minerals wanted for war work.

18. The educational programme of the Museum.

19. Number and volume of biological products prepared and supplied by the Connaught Laboratories have reached the highest point in its history. Six new products have been added; these make a total of 40.

20. Introduction of cafeteria system of waiting in Dining Hall of Hart House.

21. New secretary of the Student Christian Movement—the Reverend Arnold Nash.

22. The visit of the Director of the Institute of Child Study, Dr. Blatz, to establish a training centre for nursery-school staff in Great Britain.

23. The appointment of Miss Parkes to carry on the secretarial duties of the Students' Administrative Council, in the absence of Captain E. A. Macdonald on active service.

24. The large number of students enrolled in the classes for the study of Spanish. This is a preparation for closer cultural and business relations with the countries of Mexico, Central and South America.

Professor Synge of Applied Mathematics delivered courses of lectures on Elasticity and Advanced Dynamics at Brown University, Providence, R.I. These courses were part of a programme of advanced instruction and research in Mechanics, under the auspices of the Engineering, Science and Management Defense Training Programme of the United States' Office of Education. Dr.

Weinstein of the same department delivered two lectures on "Stabilité et Vibrations en Mécanique" at the École Libre des Hautes Études (French University courses), New York.

Professor Edgar McInnis was Visiting Professor in History at Bowdoin College, Maine, for the past year.

For the third time, the team of three mathematical undergraduates from this University won the first prize of $400 in the fifth annual William Lowell Putnam Mathematical competition, sponsored by the Mathematical Association of America and open to all the universities of North America. The names of the successful students are M. A. Preston and K. S. Hoyle of University College and H. V. Lyons of Victoria College. Preston and Lyons are now in the active service forces. The winning university sets the examination papers for the following year and therefore does not compete. This means that the University of Toronto team has won every time it has competed and it implies a tribute to the high quality of the teachers and students in this department. The prize money has been used to establish a special mathematical library of the newest mathematical works and books of reference. The series of new mathematical text-books, written mainly by members of the staff and published by our own Press, reflects still further credit upon the mathematical department of this University.

We congratulate Dean Hurst and the Ontario College of Pharmacy on the opening of their new building on November 19, 1941. This affords better accommodation and equipment than were available in the past. In 1892 the College was affiliated with the University. An optional third year has been added to the curriculum; new laboratories and a sterilization room have opened the way for those who wish to take advanced training.

Our best wishes are offered to Victoria University, one of our federated academic family, on the installation of Dr. W. T. Brown as Chancellor.

THE WAR EFFORT

By arrangement with the Departments of National War Service and National Defence, and by order of the Board of Governors, there were enrolled in the Officers' Training Corps 2,745—of whom 759 were in the Officers' Training Battalion and 1,986 in the Training Centre Battalion. Since the beginning of the war about 1,100 have received commissions in the active service forces and in training camps.

Up to June 30, 1942, approximately 4,000 of our undergraduates and recent graduates and 183 of our teaching and administrative staff are in the various branches of the armed services, or on special government duty. The Faculty of Medicine naturally has the largest representation in this group.

Seventy-three have been killed on active service; most of these were in the Air Force.

The drill hall at 119 St. George Street has been enlarged to meet the increasing demands of military training and to provide storage for more equipment. Lecture rooms in all parts of the University and Convocation Hall itself are in use for the theoretical portions of the courses of instruction.

Nearly every department of the University is relating its work to the war effort. Medicine, Engineering, Dentistry, Forestry, Nursing, Occupational and Physical Therapy, are obviously so related. In the Faculty of Arts, the Pure Sciences and Mathematics and Physics, English, History, and Modern Languages are definitely making a war contribution; Economics and Commerce are linked with the Home Front as well as with certain phases of overseas activities. The Faculty of Education is seeking to supply the need for teachers in the schools, and that need is extreme if schools are to be kept open at all. There is a value

in the trained intelligence, in whatever field the discipline is given, wherever in military or civilian service brains are needed.

Special courses of lectures have sought to state the fundamental issues of the war, its ultimate causes, and the economic and financial problems involved. Attention may well be given even now to the general requirements of the reconstruction period.

Research on war problems for the government directly or through the National Research Council has been carried on actively in many departments, such as Biochemistry, Chemistry, Physics, Hygiene, Medicine, Pathology, Electrical Engineering, Astronomy, Psychology. These are but examples. Many of these researches are of a secret nature, but satisfactory results have already been obtained. The Superintendent's Office has assisted in the equipment and adaptation necessary in many cases.

The Department of Educational Research has done work often of a confidential nature, for the active service forces, for the federal Ministry of Pensions and National Health, and for the Canadian Legion.

In the School of Hygiene, special training has been provided for sanitary officers of the armed forces. Most of these are our own graduates in Public Health.

In the Connaught Laboratories, the preparation of dried human serum for transfusions to overcome the effects of wound shock—the present substitute for the old blood transfusions, and many products related to the war have been prepared. Large quantities of tetanus toxoid (bringing immunity against lockjaw), and a combined preventive vaccine representing a combination of typhoid paratyphoid vaccine with tetanus toxoid to protect against both typhoid fever and lockjaw, have been produced.

Studies in problems encountered in chemical warfare, and in naval operations (such as lighting, seasickness, etc.)—the latter under Professors Best and Solandt.

The carrying on of researches and the provision of remedies in aviation medicine. These were begun by the late Sir Frederick Banting and carried on by his colleagues under the direction of Professor Bazett, generously lent to us by the University of Pennsylvania.

Personnel problems have been studied; and skilled psychologists and psychiatrists have been supplied for all branches of the armed forces. Members of our Psychology teaching staff and men and women from other departments are taking a leading part in the personnel branch of all the services.

Courses in radio mechanics have been given in Physics, under Professor Burton's general direction, to groups of 350 airmen, to a class of naval ratings and to a class of sub-lieutenants of the R.C.N.V.R. These have been lodged and fed in University and College buildings.

A class of dental technicians for the Dental Corps and a class in Meteorology for air fields have been carried on.

Under the superintendence of Dr. W. J. Dunlop, Head of University Extension, the fine work of the Canadian Legion Educational Services in this district is carried on from this centre. Correspondence courses in Grade XIII and in Arts for men in navy, army, and air are provided for persons serving in Canada, Newfoundland, and the British Isles. Educational advice to men preparing ultimately to enter the University is given by letter. Night classes have been conducted to enable men, desirous of becoming pilots and observers but who have lacked the necessary preparation, to obtain their required qualifications. Four hundred and sixty men have been qualified by this method. The whole class in aerial navigation have become instructors in various air-fields.

The University Women's War Service Committee has organized and carried on an extensive programme of work for the Red Cross and other war undertakings; and through a sub-committee has continued its work of placing and

caring for mothers and children from several British universities. Some of these boys and girls are now ready to enter the University and carry on courses until they are old enough to return to England.

Miss Marie Parkes continued her work for 200 women undergraduates in a Women's Voluntary Service Training Detachment of the Red Cross Auxiliary Corps.

Professor Griffith Taylor has given helpful courses in Geography for air-observers, and has prepared a set of lecture notes for the use of R.C.A.F. instructors. The modern approach to Geography with its basis in the study of topography and its use of diagrams in three-dimensional perspective, is invaluable in the training of air-crews who have to locate targets and carry out reconnaissance in enemy territory.

Within the University there has been set up from the teaching and operating staff a complete A.R.P. organization for the whole University area.

Experts from our staff are carrying on special work for the governments at Ottawa and at Washington in various state departments.

The staff and students are eager to do their utmost in the prosecution of the war. They wish only for authoritative direction where and when their best service can be rendered.

SLAVONIC STUDIES

A few years ago we established a Chair of Chinese Studies. This has already justified its existence and creates a bond of sympathy, of commerce, and of culture with our ally, the Republic of China. The publications of Bishop White, based largely on material in our Museum, have already drawn favourable attention from all students of Chinese Archaeology. This department will steadily expand in scope and deepen in content and method.

We now have another great ally, with whom our relations across the Pacific and through Europe are likely to become more extensive and intimate—Russia. This country already has made a notable literary and artistic contribution to the culture of the world. Its contacts with its democratic allies are likely to have influence upon its attitudes towards its own citizens and the outside world. Canada has sent a Minister to this state. Great interest has been aroused in the history, the literature, the music, and the social organization of Russia as well as in its language. Some leading American universities, like Harvard and Cornell, have already established departments of Slavonic Studies. In the University of London there is a similar school, presided over by a Canadian scholar, Dr. W. J. Rose. Has not the time come when we should seriously consider the advisability of setting up such a department in our own University? I do not believe that the initial financial expenditure would be heavy and I hope that in due time the governments of Russia, Poland, and Czechoslovakia would be disposed to help in its maintenance.

FUTURE BUILDINGS

Even in the midst of the grim struggle of the present, it is not unfitting that we look forward to the building problems of the future. No living institution can stand still. Indeed in the language of "Alice in Wonderland," it must run as hard as it can, if it wishes to stay where it is. New occasions will teach new duties and bring new opportunities. There are projected buildings which in due time we hope to see erected:

(*a*) A new unit for Chemical Engineering and an extension to the present accommodation for Mechanical Engineering. For these the Wallburg bequest will provide the money.

(*b*) The new Men's Residence for University College, for which a considerable sum of money is on hand and the needed balance must be collected.

(*c*) The Women's Buildings—gymnasium, swimming-bath, etc.—which are

to be added to the beautiful Georgian building left to the University under the will of the late Sir Joseph Flavelle. These will provide accommodation for all women's activities and organizations, not already cared for by the different College women's residences, and also for the women's side of the course in Physical and Health Education. The Margaret Eaton Memorial Library will also be housed there. For these purposes the money is available.

(*d*) Some day there ought to be a new and enlarged home for the School of Nursing, and additional Library accommodation.

(*e*) I fear that these new buildings will mean enlarged heating facilities.

THE SUPERINTENDENT OF BUILDINGS

From Colonel LePan's report can be gained some idea of the magnitude of the material basis for our academic work and of the extent of the services necessary to maintain it. During the war construction is reduced to a minimum; nevertheless the sum of $33,000 has been spent—$20,000 on an addition to our Canadian Officers' Training Headquarters at 119 St. George Street and the balance on various changes and extensions at the Connaught Laboratories Farm. The net expenditure for repairs and renewals (including those at the Royal Ontario Museum) amounted to $90,758—approximately one-half of one per cent of the value of the buildings. While the buildings are kept up, we cannot at present carry out the decoration and lighting which are desirable. In addition to the sixty buildings supervised from the Superintendent's Office, heat and electricity are supplied to Victoria, Wycliffe, and Knox and a small amount of power to Trinity. The expenditure for fuel and purchased heat was $122,383. The consumption of electricity increases on account of increased activities on the part of university teachers and research workers and increasing use of our buildings by various branches of the armed forces who are receiving training among us. Permits to use the buildings for special and overtime meetings reached the great number of 4,090.

The office staff numbers fifteen; thirty-three members of the Superintendent's department have enlisted; and these include many senior members. The resultant heavy burden of work is cheerfully borne by those who remain. This burden is increased by the various problems arising from the University's undertaking to train, house, and feed large numbers of men of the armed forces and from the constantly expanding work of war research.

The average number of employees was 289 and the salary and wage bill amounted to $401,000. The merchandise distributed through the Superintendent's stores, for such buildings and organizations as the Connaught Laboratories, Hart House, the Athletic Association, and the Royal Ontario Museum amounted in value to $119,000. Accounts passed for payment numbered 26,264; the purchases involved 2,672 customs entries. This year the restrictions on purchasing and the imposition of priorities have increased the difficulties of supplying the University departments, the war researches, and the Superintendent's Office with necessary materials.

The branch Post Office in the University had a turn-over of $41,000; and the revenue derived from this office was $1,068. The total cost of operating the central heating plant was $172,333.

I cannot speak too highly of the efficiency, patience, and good humour with which the Superintendent and his depleted staff are looking after the material needs of the University.

ATHLETICS

The continued suspension of intercollegiate athletics has established more firmly than ever the wise policy pursued by our Athletic Association of "Athletics for every student." The responsibility for providing an adequate diversified athletic programme for a male student body of nearly 4,000, has been capably

administered by our Director of Athletics and Physical Training, Mr. Warren Stevens.

It is worthy of note that during the session under review, twenty branches of athletics have provided organized competition for 1,994 students, or 52 per cent of the male registration. These men participated in 656 games, all of which were well organized, and played according to schedule with practically no defaults or postponements. This does not include the large number of students who avail themselves of the facilities provided for recreation and physical development, all of which taxes our playing fields, arena, and our extensive gymnasium accommodation to the utmost.

SPECIAL CONVOCATIONS

The honorary degree of Doctor of Laws (*honoris causa*) was conferred on the following: October 24, 1941—Donald Church Balfour, M.D., F.R.A.S.C., Director of the Mayo Foundation and Professor of Surgery in the University of Minnesota, U.S.A.; Sir William Wilson Jameson, M.A., M.D., F.R.C.P., D.P.H., Chief Medical Officer of the Ministry of Health for Great Britain; Thomas Parran, M.D., Surgeon-General of the Public Health Service of the United States. November 28, 1941—Surgeon-Rear-Admiral Gordon Gordon-Taylor, Chief Medical Consultant to the British Navy and Vice-President of the Royal College of Surgeons. December 15, 1941—His Excellency Hu Shih, A.B., Ph.D., Chinese Ambassador to the United States; William John Alexander, B.A., Ph.D., Professor Emeritus of English in University College; Almeron Judson Husband, B.A., an Inspector of High Schools and Collegiate Institutes in Ontario; The Honourable William Edward Middleton, a Justice of the Court of Appeal of Ontario; David Williams, Editor of the Collingwood *Enterprise-Bulletin;* George McKinnon Wrong, M.A., F.R.S.C., Professor Emeritus of History in the University of Toronto. February 26, 1942—The Honourable Claude Pepper, Member of the Senate of the United States.

The honorary degree of Doctor of Engineering (*honoris causa*) was conferred on the following: December 15, 1941—Ernest Brown, M.Sc., M. Eng., Dean of the Faculty of Engineering in McGill University.

SPECIAL LECTURES

On account of war conditions, the Harben Lectures of the Royal Institute of Public Health and Hygiene of London, England, for the year 1941 were designated to be given in the University of Toronto, on December 1, 2, 3. The lecturer was Dr. E. V. McCollum, Professor of Biochemistry at the School of Hygiene and Public Health of the Johns Hopkins University, Baltimore; and his subject "Nutritional Science and Public Health."

The first Banting Memorial Lecture, near the anniversary of Sir Frederick Banting's death, was delivered on February 20, 1942, by Dr. C. J. Mackenzie, Acting President of the National Research Council, Ottawa. His subject was "The Life and Spirit of Banting." At this lecture Lady Banting formally presented to the University Sir Frederick's orders, medals, and prizes, and the Chancellor, Sir William Mulock, made a fitting reply.

On February 26 and 27, 1942, the Marfleet Lectures were given by Senator Claude Pepper of Florida, on "The World War and the Post-War World."

In April, 1942, a series of lectures, on the effects of bombing on structures and methods of minimizing the resultant damage, were given by Professor F. Webster, Deputy Chief Engineer of the Ministry of Home Security, London, England, under the auspices of the Engineering Institute of Canada. A representative group of 180 engineers from all parts of the Dominion attended these lectures.

Professor G. G. Coulton, St. John's College, University of Cambridge, England—A series of lectures on "Life and Thought in the Middle Ages."

Dr. R. D. Gillespie, Psychiatric Specialist to the Royal Air Force—Under the auspices of the Toronto Academy of Medicine, the National Committee for Mental Hygiene (Canada) and the University—"Psychoneuroses in Peace and War and the Future of Human Relationships."

Professor C. Lanczos, Purdue University, Indiana, U.S.A.—"Application of Tshebysheff Polynomials to the Solution of Differential Equations."

Mr. Jan Masaryk, Foreign Minister of the Czechoslovak Republic—"The Choice Before Us."

Professor O. Odlozilik, formerly of the University of Prague, Czechoslovakia—"The States in Central Europe."

The Reverend William Paton, F.R.G.S., International Secretary of the World Conference of Churches—"The Present Crisis in India."

Professor C. K. Webster, London School of Economics, England, and Director of the British Library of Information, New York—"Peace-making at Vienna, 1814-1915, and at Paris, 1919."

Under the auspices of the Department of Political Economy, a series of lectures on *Modern Economic Problems:*

Professor W. H. Hamilton, Yale University, New Haven, U.S.A.—"The Decline of the Open Market and the Rise of the Corporate State."

Professor D. C. MacGregor, University of Toronto—"Governments, Economists and the Wealth of Nations."

Professor J. H. Richardson, Leeds University, England—"Freedom of Association and Collective Bargaining."

Dr. C. M. Wright, International Labour Office—"Defence Housing and Reconstruction."

Professor G. A. Elliott, University of Alberta, Edmonton—"Price Ceilings and International Trade Theory."

Professor J. D. Black, Harvard University, Cambridge, U.S.A.—"Parity and Price Control of Farm Products in the United States."

Professor Chester Wright, University of Chicago, U.S.A.—"American Economic Preparations for War 1914-1917 and 1939-1941."

Professor J. C. Bonbright, Columbia University, New York, U.S.A.—"Power Aspects of the St. Lawrence Waterway."

Professor B. S. Keirstead, University of New Brunswick, Fredericton—"Economic Effects of the War and the Concept of National Interest."

Dr. Robert Warren, Institute for Advanced Study, Princeton University, Princeton, U.S.A.—"The Corporation in the American Economy."

Under the auspices of the Royal Canadian Institute:

Professor L. J. Rogers, University of Toronto—"Canadian Frontiers."

Professor E. R. Arthur, University of Toronto—"Destruction and Reconstruction in Britain."

Professor R. G. Agnew, West China Union University, Chengtu, China—"Science and Reconstruction in China and Eastern Tibet."

Mr. K. P. Schmidt, Field Museum of Natural History, Chicago, U.S.A.—"A Naturalist in the South Seas."

Professor H. Ries, Cornell University, Ithaca, U.S.A.—"What Use the Engineer Makes of Geology."

Professor W. Kirkconnell, McMaster University, Hamilton—"The Peoples of Canada."

Dr. R. R. Williams, Bell Telephone Laboratories, New York, U.S.A.—"The Chemical Descent of Man."

Professor H. A. Cates, University of Toronto—"Facts and Fallacies about Man."

Professor W. J. K. Harkness, University of Toronto—"Rivers, Lakes and Fishing."

Mr. R. J. Renwick, Ford Motor Company of Canada—"Production and Testing of Mechanized Transport."

Professor J. D. Ketchum, University of Toronto—"War's Third Dimension—Morale."

Dr. J. H. Couch, University of Toronto—"First Aid in War Time Emergencies."
Mr. M. W. Ball, Abasand Oils Limited, Edmonton—"Developing the Athabasca Tar Sands."
Dr. S. Dushman, General Electric Company, Schenectady, U.S.A.—"What is a Metal?"
Mr. R. Bell, Director-General Aircraft Production, Ottawa—"Aircraft Production in Canada—Past, Present and Future."
Professor P. Kellogg, Cornell University, Ithaca, U.S.A.—"Songs of Wild Birds."
Superintendent V. A. M. Kemp, Royal Canadian Mounted Police, Toronto—"The Royal Canadian Mounted Police."
Mr. R. W. Lyons, Kimberly-Clark Corporation, Neenah, U.S.A.—"Forestry and Pulpwood Forests."
Dr. L. Gerin-Lajoie, University of Montreal, Montreal—"Medicine Marches On."
Professor G. P. Thomson, Imperial College of Science, London, England—"The Scientific Attitude in Peace and War."

MEETINGS

The Canadian Historical Association, the Canadian Political Science Association, and the Canadian Psychological Association met at the University on May 25 and 26, and the Royal Society of Canada, on May 27, 28, and 29. On June 9, 10, and 11, was held the National Conference of Canadian Universities.

BENEFACTIONS

I ask special attention to the extraordinarily large amount of the grants and benefactions during the past year—$767,830. This witnesses both to the great volume of research work done for the government by members of our staff, and to the steady stream of gifts and grants from private donors for special purposes and for scholarships and prizes. The University continues to merit the confidence and help of those who know and appreciate its work. I also wish to emphasize the vast and growing business transacted through the Bursar's Office. This has become a kind of Trust Company Headquarters.

In addition to handling the University's operating budget of $2,984,548, the Bursar's Office during the past year received and paid out funds of $767,830, exactly twice the amount of the previous year, and approximately four times the amount of an average year. If you add to this the many scholarships and endowments, the income from which is paid out under various conditions according to the terms of the deed of trust or the instructions of the donor, the total sum dealt with was approximately $4,000,000—the largest annual financial programme in the history of the University. This amount included the administration of 42 funds, consisting chiefly of National Research Council and other Dominion government grants for war research activities. These necessitated in each case the rendering in triplicate of quarterly statements of expenditures, together with accompanying vouchers.

The Department of Physics, under the guidance of Professor E. F. Burton, undertook special instruction in radio mechanics for the Navy, the Army, and the Air Force, and the financial details in connection with these courses considerably increased the ordinary work of the office.

The establishment of "Composite Fees" in all faculties simplified the collection of fees. There was set up a system of "Prepayment of Fees" prior to registration, which will further assist both students and staff. This has met with the hearty approval of all the Colleges and faculties.

The acceleration of courses in the Faculties of Medicine and Dentistry has required a radical change to be made in the usual financial routine. Funds have been provided by the Dominion government towards the cost of these acceleratd courses.

Loan funds for students in Medicine, Dentistry, Science, and Engineering have also been provided by the Dominion government on an unprecedented scale.

The sum of $90,000 has been set aside for this purpose; these loans together with grants from the Kellogg Foundation have made possible the continuation of studies for many students who otherwise would have had to withdraw on account of lack of funds.

Additional gifts, bequests, and endowments (most of which were for specific purposes) brought the University's investments up to a total of $11,000,000. The handling and recording of these investments directly by the Bursar's Office expedite transactions and make available immediately any information desired in connection therewith.

The new form of income taxation adopted by the Dominion government involved an immense amount of extra work in making deductions from salaries for this purpose and in supplying the members of the staff with details of the same. The task is further complicated by the fact that the University year does not coincide with either the government or the calendar year. Payroll deductions for War Loans, and many other necessary undertakings have arisen as a result of the war, but a year without parallel in the financial administration of the University has been brought to a happy conclusion.

The following is a list of benefactions received during the year, totalling $767,830:

Dominion Government Grants		
Accelerated Course—Dentistry	$ 6,000.00	
Accelerated Course—Medicine	12,000.00	
Accelerated Course—War Service Loan Fund	30,000.00	
Aviation Medical Research—Bazett Project A. M. 1	23,100.00	
Aviation Medical Research—Rose Project A. M. 5	1,000.00	
Medical Research—Bazett Project A. M. 13	100.00	
Aviation Medical Research—Price Project A. M. 4	4,000.00	
Aviation Research Psychology—A. M. 2	6,525.00	
Solandt—F. E. 16904 C. W. 511	400.00	
Chemical Warfare—Gordon F. E. 16904 C. W. 517	4,000.00	
Chemical Warfare—Lucas F. E. 16904 C. W. 503	1,020.00	
Chemistry—Gordon C1000-27	12,331.39	
Dental Technicians' Course	8,760.00	
Fish Culture—Fry	400.00	
Fish Culture—Ide	800.00	
Fish Culture—Langford	347.75	
Irwin F. E. 16904 C. W. 509	400.00	
Medicine Cleghorn—Project No. 9-2	825.00	
Navy Technical Class Physics No. 2	9,000.00	
Navy Technical Class Physics No. 3	31,000.00	
Navy War Project—Burton—Physics—Burton, Pitt	1,775.00	
Nutrition Survey—McHenry	1,500.00	
Oxygen Production Physics—Burton—Wilhelm P. E. 5	7,620.00	
Project N. M. 4—Best	1,200.00	
Project N. M. 5—Best	1,450.00	
Project N. M. 9—Best	1,200.00	
Project A. M. 7—Solandt	500.00	
Project A. M. 6—Solandt	570.00	
Project N. M. 7—Solandt	550.00	
Project N. M. 8—Solandt	200.00	
Project N. M. 14—Solandt	920.00	
Personnel Administration Course	2,000.00	
Project N. M. 12—Bateman	300.00	
Radio Technicians' Course No. 1	120,380.00	
Radio Technicians' Course No. 2	220,652.00	
Radioactive and Mass Spectrometric Research Burton—Keevil	700.00	
War Project B. E. 1 Duff, Botanical Research Fund	2,500.00	
War Project C. E. 42—Physics—Burton	2,900.00	
War Project C1005—1 Physics—Burton	1,000.00	
War Project P. E. 4 Physics—Burton, Pitt	14,725.00	
War Project P1010 Physics—Burton, Pitt	18,425.00	
Young Project F. E. 16904 C. W. 510	940.00	
		$554,016.14

W. K. Kellogg Foundation		
Medical Loan Fund	22,000.00	
School of Hygiene Fund	11,000.00	
		33,000.00
Eaton Endowment, Annual Payment		25,000.00
Rockefeller Foundation		
Nutritional Survey	3,700.00	
Psychiatry	5,400.00	
School of Hygiene Special—1	7,124.25	
School of Hygiene Special—2	5,000.00	
School of Hygiene Special—3	3,299.00	
		24,523.25
Estate of Elizabeth J. Robertson Bequest—Arthritis		20,000.00
Reuben Wells Leonard		
R. W. Leonard Bequest	8,400.00	
R. W. Leonard Fellowship and Scholarship	4,650.00	
		13,050.00
Wenner-Gren Geophysics Fund		11,600.00
Hydro Electric Power Commission of Ontario		
H. W. Price Research Fellowship in Electrical Engineering		10,000.00
Maple Leaf Fund Incorporated—Women's War Service Committee		7,065.50
Carnegie Corporation—Fine Art		5,500.00
Canadian Red Cross Society		
Institute of Child Study		5,016.65
Organic Chemistry—Anonymous		5,000.00
Ontario Mining Association Grant—Silicosis		5,000.00
Samuel, Son and Company		
Sigmund Samuel Scholarship—Chinese Study	4,000.00	
Sigmund Samuel Donation	1,000.00	
		5,000.00
Research Enterprises Radio Course—University Extension		4,515.00
Annie L. Laird Prize—Household Economics	2,000.00	
Annie L. Laird Scholarship—Household Science	2,500.00	
		4,500.00
National Foundation for Infantile Paralysis Inc. of U.S. Fund—Paediatrics		3,739.75
Hans Lundberg Fund—Geophysics		3,612.49
John and Mary R. Markle Foundation Fund—Blood Clotting		2,860.00
Mary G. Hamilton Fund—School of Physical and Health Education		2,000.00
David Dunlap Memorial Scholarships		1,500.00
Engineering Society Loan Fund		1,500.00
Sir Joseph Flavelle Fellowship		1,250.00
Forestry Memorial Scholarship		1,250.00
Arthur Cohen Scholarship		1,035.00
St. Margaret's College Alumnae Association Scholarship		1,000.00
Graduate Fellowships donated by:		
Lady Kemp	500.00	
Imperial Oil Limited	500.00	
		1,000.00
C. I. L. Fellowship in Chemistry		750.00
Parke-Davis Donation—Greey Research		750.00
Robert Simpson Company, Scholarships		650.00
J. S. McLean Fellowship—University College		625.00
School of Architecture—Sample Room		620.00
John T. White Bequest, Medical Research, Banting		600.00
Geological Society Grant—Physics, Keevil		549.25
Sadowski Scholarships		500.00
Royal College of Dental Surgeons for Dental Library—Harry R. Abbott Fund		500.00
N. W. Rowell, K.C., Fellowship in Law		500.00
John Northway Memorial Fellowship in Psychology		500.00
Sir Edmund Walker Scholarship		450.00
William Lowell Putnam Prize Fund—Mathematics		439.50
John Macara Barrister of Goderich, Scholarship		425.36
Gertrud Davis Exchange Fellowship		400.00
University College Alumni Matriculation Scholarships		375.00
Robert Bruce Scholarships		360.99
B'nai B'rith Scholarships		350.00
Montgomery Ward and Company Inc. Bursary		324.00
Laidlaw Donation—Fine Art		300.00

Oral Health Magazine		
Wallace Seccombe General Proficiency Prize	$150.00	
Oral Health Thesis Prize No. 1	100.00	
Oral Health Thesis Prize No. 2	50.00	
		300.00
R. A. Bryce, Esq., for U.T.S. Engineering Scholarship		250.00
James Branston Willmott Scholarships		250.00
Jule and Jay J. Allen Award		250.00
Boiler Inspection and Insurance Company, Scholarship		150.00
Percy Hermant Scholarship—Matriculation		250.00
H. R. Bain Matriculation Scholarship		200.00
Anonymous for Mary Keenan Award		200.00
Delta Phi Epsilon Bursary—Zeta Chapter		200.00
Ontario Association of Architects Scholarship		200.00
Professor L. Infeld Donation—Applied Mathematics		150.00
Maurice Hutton Matriculation Scholarship		125.00
Sir John C. Eaton Memorial Scholarship—U.T.S.		120.00
Ramsay Wright Scholarship		104.49
U.T.S. Old Boys' Association Scholarships		100.00
G. L. P. Grant-Suttie, Esq., Donation for Geography Department		100.00
Herbert Willson Scholarship		100.00
University College Alumnae Scholarship		100.00
White Pine Bureau Scholarship		100.00
Association of Professional Engineers of the Province of Ontario Scholarship		100.00
Toronto Brick Company Prizes		100.00
Hollywood Theatre Prizes in French		100.00
George Kennedy Scholarship		83.09
Sarah Kennedy Scholarship		83.09
Romaine K. Ross Prize—Law		70.00
Dr. R. A. Reeve Prize		50.00
Deborah Assembly No. 5 Bursary, Order of Rainbow for Girls		50.00
Sir Frederick Banting Memorial Fund		50.00
University College Alumni Prize		50.00
Public Speaking Association Bursary		50.00
Lambda Chi Alpha Alumni Association of Toronto—Ronald S. Saddington Medal—Pathology		30.00
Graduate Scholarship in Law		30.00
Faulkner Medal—Psychiatry		26.90
American Society Heating and Ventilating Engineers, Ontario Chapter Prize		25.00
International Accountants and Executives Corporation of Canada		25.00
Engineering Institute of Canada Prize		25.00
Ontario Medical Association Prize in Preventive Medicine		25.00
Labour Research Institute Prize—Law		25.00
Pi Lambda Phi Fraternity Prize—Kappa Chapter		25.00
W. George Switzer Memorial Award		20.00
British Association for the Advancement of Science Fund		16.74
University College Alumnae Prize in English		10.00
University of Toronto Women's War Service Committee—Howard F. Lowry Donation		5.39
Library Squair French No. 2 (Royalties)		2.86
		$767,830.44

NOTE: A gift of "Tophet A" Wire and Ribbon for Orthodontia use to the approximate value of $387 was made by the Wilbur B. Driver Co. of Newark, N.J.

GENERAL CONSIDERATIONS

From the beginning of the war, it has been the policy of the Canadian universities—on advice from the military authorities—to combine academic work with military training during the undergraduate courses and, for the most part, to advise students to finish their courses and then to enlist. Better service in every branch of the fighting forces is likely to be rendered by better-trained men. This is especially true in the professional faculties such as Medicine, Dentistry, and Engineering. The government asks that men in these courses and in the pure sciences, such as Mathematics, Physics, and Chemistry, complete their preparation, so that they may render all possible help to the country's war effort, either in the active service forces or in industry. If our universities are to make

the most valuable contribution to the good cause, they must have teachers to give instruction and students to receive it. It would be a suicidal policy in the long run to deprive educational institutions of both teachers and younger scholars.

It would be equally fatal, I believe, completely to suppress any faculty during the war. There would be a serious gap left in our national culture. Our faculties are closely inter-locked. The women undergraduates will still need training. General intelligence may be developed by mental disciplines that are not purely technical or scientific. We must maintain our organization to receive the men on active service who will gradually be returning to Canada.

May I venture to make a few remarks on some of the difficulties and tests that confront all universities and colleges at the present time, and that are likely to be more urgent in the future?

1. We can safely accelerate certain courses at the moment without any loss of thoroughness or lowering of standing. This is true of Medicine and Dentistry, at least; there is strong divergence of opinion about the acceleration of some other courses. Teachers must not be exhausted and deprived of opportunity for research; and students must not be made to suffer the danger of intellectual indigestion. We all need a little time to think. But it may well be that in some faculties, notably in Medicine, accelerated courses may be found so safe and satisfactory that they will be maintained after the war is over.

2. The cost of education has steadily increased. It is no longer possible for students to be recruited from some groups in the community, because they have not the financial resources to enable them to attend the university. Scholarships, loans, and bursaries have helped to a very large extent to equalize educational opportunities; but much more will have to be done by the state and by private effort to extend the range of this help and to increase its amount, so that the brain-power of youth distributed through the whole community may not be wasted. A large proportion of students help themselves financially, by working during vacation. This they will doubtless continue to do. They may lose some fine flower of scholarship in certain fields of knowledge, but they gain self-reliance and the moral and intellectual "wrestling thews" that overcome the inevitable difficulties of life. Still, when all is said, more help can and should be given to students of intellectual power and promise, to meet what they themselves can offer, that the state may not be deprived of most valuable service. I am glad to report that nearly 300 fellowships, scholarships, awards, and prizes are now established in our University. But more are needed.

3. How are our universities to receive adequate support in the future? With possibly permanently lowered rates of interest on endowments, with heavy taxation which will continue long after the war, with crippling succession duties, with governments themselves feeling the financial pinch, how shall institutions of higher learning carry on? There will be need of eliminating all unnecessary expenditure; indeed, this rigorous economy is already in operation. There may be on the continent generally combinations of institutions now competing. Fees in most cases cannot safely be raised without shutting out students who ought to be within our halls. The support of graduates will have to be sought even to a greater extent than at present. In Canada, where education falls under the jurisdiction of the provinces, provincial governments after the war may not enjoy the revenues of past years. I suggest that in our Dominion the federal government, which possesses the ultimate power of taxation, and does not hesitate to use it, may have to come to the rescue by way of subsidy or subvention. It might continue to do, what it is most generously and helpfully doing at present, viz.: to give scholarships or loans to able students, and grants for the furtherance of research. The real wealth of a nation lies not in veins in the earth, but in the minds and souls of its people.

4. What is the present trend in higher education? Is it toward the "humanities," or toward the so-called practical courses? Even of late it has seemed to be toward the latter. This tendency may be accentuated after the war, when in a world, exhausted, debt-laden, and materially poorer, people must more than ever fend for themselves. We can scarcely look forward to a world of financial security; rather to a world of strenuous effort and of challenging difficulty. Some hope that there will be a revival of interest in the humanities. I sincerely hope there will be, but I am not sure when it will come. In any case, if the humanities do not find a place in our curricula, we shall lose incalculably as civilized beings. In any case, we should try to infuse as much as possible of the humanities and of the humane spirit into our professional courses.

5. In our curricula for the future, we should do our best to substitute "both . . . and" for "either . . . or." That is to say, to keep a grip on both past and present, on the humanities and the sciences, on both the physical and the social sciences. We aim to send into the community men and women trained in wisdom, not only to make a living, but also to build a worthy life and to help mould and make a better world. The great task of the universities remains the same throughout the ages; it is to educate intelligent and well-disposed citizens for life in the democratic state, and "to forward the welfare of that State and of the world through its contribution to truth." Our long-range work is to diffuse light and leading among mankind. If we can set forth the fine ideals of personal and national life, and can defend, purify, and strengthen them, we are really strengthening and purifying democracy itself. The universities must play a full part in the defence of democracy by helping to purify it and in the maintenance of civilization by preserving civilization from becoming decivilized.

6. There have been two systems of education in the world to-day. (1) That which seeks the benefit of the person taught, which is designed not only to instruct but to develop the mind and character, to train up intelligent human beings who can think and judge. This is the system that all free peoples try to secure and to maintain. (2) That which seeks the benefit primarily of the state and its autocratic rulers. This totalitarian education trains youth not to think for itself but to accept unquestioningly what its rulers wish it to think. This system produces a race of obedient yes-men; it is a political factory for the mass-production of moral and mental serfs. This is a system which all free peoples will avoid.

While universities necessarily adjust themselves to present emergencies, they must not abandon their fundamental functions. They must preserve true freedom of thought and opinion (although in war-time subject to restriction in the national interest), freedom of intellectual inquiry and research, freedom of worship and the maintenance of tolerance of creed and race, and of "the integrity of our cultural tradition."

By the last is meant the wealth of intellectual and spiritual resources which have been bequeathed to us from more ancient civilizations and have been developed and enriched by our own forefathers. More and more in these days which try the souls of man, we are forced to lay stress not only on the material well-being of our people but no less on the moral and spiritual values which grow out of religious faith and without which no stable social culture can be achieved. The colleges and universities must try to inspire students to self-discipline, that they may graduate into the work of the world realizing that they have not only privileges and rights, but also duties to God and man as citizens of a democratic community.

To the Legislature of the province we are grateful for its annual grant, of which we have tried to be good and economical stewards. To the federal government, the great foundations, and private benefactors, we give sincere thanks for

their aid in research and in student assistance. To members of the Board of Governors (and especially to the Chairman, Dr. D. Bruce Macdonald), to the fine band of administrative officers, to the heads of Colleges and deans, to our teaching staff and the whole student body, I offer my personal gratitude for co-operation and encouragement in the heavy task of directing the course of a great and growing instrument of public service—the University of Toronto.

All this is respectfully submitted.

H. J. Cody,
President

November 30, 1942.

REPORTS

REPORT OF THE DEAN OF THE FACULTY OF ARTS

The attendance in Arts for the third year of the war was about 500 less than for the last year of peace. Indeed, each year of the war shows a decline in attendance from the year preceding it of about one-third of this number. There were almost a dozen refugee students enrolled in honour courses. The staff in Physics did a great deal of extra work in providing instruction on the scientific basis of Radio and Fire Control to enlisted men in the Air Force and to naval officers and naval ratings, the total number of men involved being well over 1,000. The staff in Psychology has helped very considerably in the war effort by adapting and operating tests for the selection of qualified personnel for various branches of the service. Important scientific work on war problems is being carried out by the Departments of Applied Mathematics, Botany, Chemistry, Physics, and Zoology. Students from all years enlisted for active service. In particular, about 90 of those who graduated in June were at that time either serving in the armed forces or training to become officers.

For the period 1932-4 the percentage of first-year students enrolling in honour courses in Science or Mathematics was at its highest, namely 23. For the periods 1934-7, 1937-40, 1940-2 the corresponding percentages were 16, 19, 20. The war is no doubt responsible for the increase in percentage towards the end of this decade, just as material prosperity, then a thing of the past, was probably responsible for the high percentage at the beginning. Some urge that for the balance of the war everything possible should be done towards continuing this increase in percentage, while others (of whom the writer is one) see great problems looming up if the remaining subjects in the curriculum come to count for less and less.

The Department of Education of the province is setting up a Defence Training Course, prescribed as an obligatory subject in all schools qualified to provide the necessary instruction. Standing in the course will be accepted towards qualifying for a secondary school graduation diploma, and the University has agreed for the duration of the war to accept this diploma in lieu of the present diploma based on the regular academic work up to Grade XII.

S. Beatty

REPORT OF THE PRINCIPAL OF UNIVERSITY COLLEGE

It is unnecessary to say that our work during the session has been carried on under the shadow of war conditions. Practically all our male students have been enrolled either in the C.O.T.C. or in the Training Battalion. Large numbers have dropped out of college to join active service units and many are planning to do so at the end of the session. Next year we shall probably have a very small number of men in the upper years. On the other hand, it seems probable that the number of women students will be much less seriously reduced. Perhaps the first year will be only slightly affected as many of the students are under military age. Most of our young instructors will have gone, and in several departments the problem of retaining an adequate teaching staff will be serious.

Professor Cochrane, Professor Rouillard, Professor Andison, and Mr. Assié have been granted temporary leave of absence in order that they might accept various government appointments connected with the war services. Professor A. S. P. Woodhouse has been appointed to a Guggenheim Fellowship for next year.

Two courses of public lectures were delivered during the session in the West Hall of the College, the first on *Letters in England between the Wars 1919 and 1939* and the second on *Democracy in Canada*. The list of lecturers and subjects was as follows:

Philosophy—Professor G. S. Brett
History—Professor R. Flenley
Poetry—Professor R. S. Knox
Drama—Professor Gilbert Norwood
Fiction—Professor N. J. Endicott

The Meaning of Democracy—Principal M. W. Wallace
Political Democracy in Canada—Professor D. G. Creighton
Freedom of the Press and Discussion—Mr. John A. Stevenson
Religious Liberty—Dr. C. E. Silcox
Economic Democracy—Mr. C. B. Macpherson

The Alexander Lectures were delivered in Hart House Theatre on the afternoons of March 11, 12, and 13 to very large audiences by President H. J. Davis of Smith College. The subject of the lectures was *Swift and Stella—Satire, Comedy, Sentiment*. It was a great pleasure to welcome President and Mrs. Davis to University College where formerly they had both been members of our English Staff for many years. Next session we hope to have as Alexander Lecturer Mr. Harley Granville-Barker, the famous Shakespearean scholar, who is now a member of the staff of the British Library of Information in New York.

The following benefactions have been received during the year:

1. From the Hollywood Theatre, $50.00 to be used as prize money in the Department of French.
2. From Professor R. J. Bonner, ('90), a photograph of University College taken the day after the fire of 1890.
3. From Mrs. A. D. Crooks, two photographs of early executives of the Natural Science Association.
4. From Mr. A. L. Fleming ('10), an Athletic Trophy for Track and Field sports.
5. From Miss Violet Pettypiece, ('39), A Landscape by Carl Schaefer.
6. From Miss M. F. Webster, A Landscape by Emily Carr.
7. From Miss E. W. Bruce, ('37), $50.00 in Dominion Bonds to buy a picture.
8. From the Public Speaking Association, a Bursary of $50.00.
9. From the Corner Club of Toronto, a Bursary of $25.00.
10. From the International Association of Chartered Accountants a Bursary of $25.00.
11. From the University College Alumni Association, $25.00 to be used as prize-money.
12. From the Delta Phi Epsilon Alumnae, a Bursary of $100.00.
13. From the Alumnae of St. Margaret's College, $1000 in bonds to be added to the capital account of their scholarship in Social Science.

Throughout the session a committee of the College Council has had a number of meetings with the University College Committee of the Board of Governors, at which they have explored thoroughly various questions relating to the status of University College in the educational programme of the University. We are hoping to explore the question more fully during the coming session.

M. W. Wallace .

REPORT OF THE DEAN OF THE FACULTY OF MEDICINE

The year 1941-2 has seen many important changes in the Faculty of Medicine and much activity on the part of the Faculty Council and its various committees. This was due to the extensive rearrangement of the time-tables and

to the many negotiations with the government, the other medical schools, the Dominion and provincial medical councils, and the hospitals, necessitated by the acceleration of the course. At first it appeared that it might not be possible to carry out the plan of acceleration determined upon last year owing to the financial difficulty in which about 40 per cent of the students found themselves through the elimination of the holiday time during which they were accustomed to add to their income. These difficulties, however, have been overcome and I am glad to report that the first year of the accelerated course has been completed and the second year begun, in a highly satisfactory manner. It would appear that aside from the curtailment of the rotating internship from twelve months to eight, the students are receiving as good a course as they ever did and without any great hardship. The only unhappy circumstance is that the very seriously depleted staff finds itself forced to carry on intensive teaching for ten months instead of seven and a half. The teachers, however, have welcomed this opportunity to make an effective contribution to the general war effort.

The final solution of the financial difficulties of many of the students came with the following order issued by the Adjutant General on April 27, 1942, to all District Officers Commanding:

ENLISTMENT OF MEDICAL STUDENTS

In view of the pressing need of medical officers to meet the requirements of the armed forces, arrangements have been made with the Canadian Universities to accelerate courses in Medicine by reducing the normal summer vacation periods to a minimum, thus enabling a student to cover the course in a considerably shorter time.

It has been decided to enlist students attending Medical Schools into the Canadian Army (Active) at any time during the last two academic sessions at University prior to qualifying for a license to practise during internship. During this period, students so enlisted will be granted leave with pay and subsistence allowance to enable them to complete their course, obtain a license to practise and become eligible for appointment as Medical Officers in the Armed Forces.

The following regulations and instructions will govern enlistment of the students attending Medical Schools at Canadian Universities.

(a) *Enlistment*

(i) Providing the student is physically fit (categories A, B or C) in accordance with the required medical standards and has been accepted by the D.M.O., he may be enlisted in the Canadian Army (Active) as a Private at any time during the last two academic sessions prior to qualifying for a license to practise or during the period of internship or before becoming eligible for appointment as a Medical Officer in the Armed Forces.

(ii) As Medical Officers are required for the Navy, Army and Air Force the Medical student, upon enlistment, will be afforded the opportunity to express his preference for the service to which he prefers to be appointed after obtaining a license to practise. No assurance can be given that appointment to the service selected will be possible. The preference is to be expressed in the following pro forma which will be affixed to the M.F.M. 2:—

"Providing a vacancy exists I prefer to be appointed to

{The Royal Canadian Navy / The Canadian Army (Active) / The Royal Canadian Air Force} upon becoming licentiate of Medical Council of Canada or receiving a license to practise the profession of Medicine in one of the provinces of Canada.

.....

Reg. No. Name

(iii) D.M.O.'s should ascertain from Deans of Medicine the names of students volunteering for enlistment who are not considered likely to pass final examination. Such students should not be enlisted.

(b) *Service*

(i) Students in Medicine will be enlisted into the R.C.A.M.C., placed on strength of a District Depot, for all purposes, and granted leave of absence with pay and subsistence allowance, except as provided in para (c) (i) below.

(ii) The total period during which leave of absence with pay and allowance will be granted is not to exceed 24 months.

(iii) It will be the responsibility of District Medical Officers to maintain close liaison with the faculties of Medicine of Universities within their respective districts. They will familiarize themselves with the professional and scholastic qualifications and exercise general supervision in so far as Army matters are concerned, in regard to all students enlisted under these regulations.

(iv) D.M.O's will maintain a nominal roll of students enlisted and attending universities within their Districts and submit periodical confidential reports as directed by the D.G.M.S.

(v) During such time as the Medical School is not in session a student shall be liable to do duty with his unit, or be detailed for such military or professional duty as may be directed by the D.M.O.

(c) *Pay and Allowances*

(i) All students duly enlisted will receive pay of Private plus subsistence allowance of one dollar per day with the following exception:—

Medical students serving their internship in a hospital from which they receive free board and lodging will not receive subsistence allowance.

(ii) Dependence allowance will not be paid to students enlisted under this scheme.

(d) *Dress*

Students will wear uniform at all times except when in performance of duties connected with their studies, such as hospital intern duty for which other dress is necessary or as provided in dress regulations.

This decision of the government to enlist as privates all physically fit volunteers from the fifth and sixth and intern years solved completely the financial difficulties of these students and assured the armed forces of a steady supply of medical officers. There remained, however, the students of the second, third, and fourth years who also were in trouble because of the curtailment of the summer holidays. To overcome this difficulty the government, through the Department of Labour, has established a loan fund which is available for all the students in these years who need assistance. The following is an outline of the plan adopted:

STUDENT AID—ONTARIO

1. Financial aid in the form of loans shall be available for the following full-time students of university grade (other than first-year students) registered in a course leading to a degree in a degree-granting university: students in medicine and dentistry who sign a written witnessed agreement that they will enlist in the active Armed Forces when they enter the final years of their course; students in engineering (electrical, mechanical, chemical, civil and metallurgical) science (physics, chemistry, mathematics) who sign a written witnessed agreement that on graduation they will make their services available to the national war effort where needed, (including all branches of the active Armed Forces) in the capacity for which they have been trained.

2. Students shall be selected by a committee or committees in each participating university on the basis of academic merit plus financial need and such selection shall be confined to those who without assistance could not continue their university course.

3. The aid shall take the form of a loan from funds to be supplied direct to each university

by the Dominion Department of Labour. These funds shall be administered by a committee or committees in each participating university and the university shall assume responsibility for the subsequent collection of these loans and their repayment to the Dominion Department of Labour.

4. The method of collecting the loans shall conform to the practice normally followed in each university in handling its own loans to students but no interest shall be charged on any loan until the recipient has graduated from or left the university. Furthermore, no loan shall be collected from the heirs or assigns of any student who may be killed or dies on active service.

5. The aid to a student shall be subject to discontinuance at any time for cause at the discretion of the authorities of the university concerned.

6. No form of work shall be required from any student in return for aid under this schedule, other than diligent application to the course of studies for which he or she is enrolled.

7. Aid shall be used for those purposes which shall be most beneficial to the student; such as tuition and other fees, board and lodging, text-books.

8. The amount of the loan shall be graded according to the financial need of each individual, but the average in any university shall not exceed $300 per student for the academic year.

9. Where a university, in order to increase the output of doctors, accelerates its medical course by shortening the summer vacation period, the Dominion Department of Labour will pay to such university a sum of money to compensate it for the direct additional costs of such an accelerated course. Such payment shall be made each calendar year while this schedule is in operation and the amount of such payment shall be determined by the Department of Labour after consultation by the Dominion Supervisor of Training with each university.

10. Each university shall send to the Dominion Supervisor of Training the following information: name, year and faculty of each student participating in Student Aid; the amount of the loan granted and the purpose for which loan is being used.

With the completion of these negotiations there remained only the women students and those male students who are physically unfit for military service. Fortunately the possible financial difficulties of these students have been solved by a most generous gift of $10,000 from the Kellogg Foundation which has been set aside as a loan fund for students of these two groups who may be in need of assistance because of the acceleration of the course. This gift will ultimately form the nucleus of a permanent loan fund for medical students who meet financial disaster during their course.

After much consideration it has been decided that a limit of 150 will henceforth be placed on the number of students to be admitted to the first year. This is somewhat higher than the average for the past ten years but it was felt that during war-time we should temporarily, at least, try to handle this number. In selecting them from the applicants (who usually number several hundred) a committee of selection will take into consideration the following criteria:—

(*a*) Matriculation record. Applicants from rural districts where facilities are limited, will be given special consideration.

(*b*) The health and physical condition of the applicant.

(*c*) Record in a medical aptitude test to be held prior to the date of registration.

(*d*) The impression of the committee based on a personal interview, if required.

The following chart will indicate what is being accomplished in the present accelerated course.

1941-2	*Graduation*	*Internship*	*Available for military service* Speeded-up course	Regular course
Sixth year	April 30, 1942	May 1, 1942, to Dec. 31, 1942	Jan. 1, 1943	July 1, 1943
Fifth year	Dec. 31, 1942	Jan. 1 to Aug. 31, 1943	Sept. 1, 1943	July 1, 1944
Fourth year	July 30, 1943	Sept. 1 to April 30, 1944	May 1, 1944	July 1, 1945
Third year	April 28, 1944	May 1 to Dec. 31, 1944	Jan. 1, 1945	July 1, 1946
Second year	Dec. 31, 1944	Jan. 1 to Aug. 31, 1945	Sept. 1, 1945	July 1, 1947

As the result of this speeded-up curriculum the year which graduated on April 30, 1942, took the place of the interns in hospitals throughout Canada on May 1, instead of July 1. They were thus made available for military service two months earlier than would ordinarily be the case. The present interns will be available for the armed forces on January 1, 1943, instead of July 1, or six months sooner; the sixth year will be available ten months earlier; the fifth year, fourteen months earlier; the fourth year, eighteen months earlier; and the third year, twenty-two months earlier.

The curricular changes in the courses of each of the years have only been of a minor character, the time-tables in each year consisting of the three terms of the old course to which has been added the first term of the next succeeding year in the fourth term from April to June. The total length of the actual instruction is such that each student receives practically the same sound medical training as in the regular course, but in a shorter period of time.

During the first two years of the war all medical students were required to attend military drills for 110 hours a year. This year, however, the fourth, fifth, and sixth years have been released from this duty and in its place have been required to attend a special course of lectures and demonstrations on war medicine and surgery. This extra-curricular course was given voluntarily by members of the staff. This change was much appreciated by the students who found that, with the acceleration of the course, the time spent on the drill ground interfered seriously with their work.

One of the minor effects of the war has been that it is impossible to buy new microscopes. To overcome this difficulty a pool of microscopes from all the departments and from graduates has been established, and these are issued to the students at a small rental fee.

In the summer of 1941 the Board of Health of Great Britain asked the Canadian Red Cross to send the personnel of a 400 bed orthopaedic unit to work with the Emergency Medical Service in Scotland. This unit was organized here under the direction of Dr. A. B. LeMesurier and is established at Hairmyres, a short distance from Glasgow. It is reported to be very busy.

The Balfour Lecturer for 1942 was Dr. Alfred Blalock, Professor of Surgery at Johns Hopkins University. His subject was "Traumatic Shock," on which he has made important experimental and clinical contributions. A very large audience was in attendance.

A new item of interest was the awarding of special honours to former students, Dr. A. F. Mahaffy, 1923, and Dr. W. S. Stanbury. Dr. Mahaffy was awarded the rank of Companion of St. Michael and St. George for his outstanding work in the tropics on yellow fever. Dr. Stanbury was awarded the O.B.E. for his work on blood transfusion in England.

Honours conferred on members of the staff this year include the degree of D.Sc. to Professor Best from the University of Chicago. The Dean was made an honorary fellow of the Royal Society of Medicine in England.

W. E. Gallie

REPORT OF THE DEAN OF THE FACULTY OF APPLIED SCIENCE AND ENGINEERING

Due to the extraordinary demand for engineers and technically-trained personnel generally, the registration in the Faculty of Applied Science and Engineering for the session 1941-2 was the greatest in its history, having amounted in early October to 1,146 students, of whom 471 entered the first year. While, generally no restriction was placed on enrolment, it became necessary to obtain permission from the Board of Governors of the University to limit the students in first-year Chemical Engineering to 105. In order to bring this about, 29 students were asked to transfer to other courses. The greater number of these entered the Department of Metallurgical Engineering, since the curriculum in this Department is closely related to that in the Department of Chemical Engineering.

The problem of accommodation arising out of record enrolment was rendered acute by reason of two circumstances. In the first place, the extraordinarily large numbers of first-year students laid a heavy burden on the space and equipment of the Department of Engineering Drawing. By intense effort the staff of this department was, however, able to provide draughting space for every student requiring it and accommodation for his equipment under lock and key. The second important source of difficulty was in accommodating the very large numbers requiring instruction in the chemical laboratories. A complicating element in this situation was the new requirement of the curriculum that Chemical Laboratory for a number of departments should be given in the first year rather than in the second year, thus necessarily involving larger numbers of students.

While the operations of the Faculty have been made the more difficult by reason of the absence of ten members of the staff on war duty, either with the armed forces or otherwise, the greatest staff problem has been in respect of the junior ranks. Late in the summer of 1941 it became evident that it would be impossible to secure on a full-time basis all of the instructors and demonstrators required. Consequently, appeals were made to numbers of employers of engineers in the Toronto area for assistance. As a result, 22 young engineers were given part-time appointments, amounting generally to about six hours per week of class work, with some three hours per week of preparation. The conscientiousness with which these part-time appointees carried out their work, and the general attitude of helpfulness on the part of their regular employers, made it possible to carry on the work of instruction in a satisfactory manner.

The session under review was the first in which the revised curriculum was operative. On the whole it seems to have worked smoothly, despite time-table complications resulting from the shifting of junior Chemical Laboratory from the second to the first year. The additional time spent in English in the form of report writing seems to have met with general approbation. The revised and lengthened course in General Economics given by Professor V. W. Bladen has been widely approved and constitutes an important forward step in the liberalization of our engineering courses.

Throughout the session a very great deal of effort was given by the students in performing the military duties required of them. On account of the lessening of time available for academic work, a bonus was given to students taking military training. In the case of the Training Centre Battalion, this was fixed in accordance with the recommendation of the officer commanding the battalion, but was limited to 5 per cent of the obtainable marks in each written subject.

For students taking officers' training, a bonus, similarly based on a report of the officer commanding, was given, with a maximum value of 10 per cent of the obtainable marks in each written subject. Corresponding bonuses in the laboratory subjects were granted, but the amount was made to depend upon the extent to which the laboratory reports were written outside the laboratory.

Generally, the effect of the bonus for military training was to assist students in obtaining honours rather than to save from failure a student who might otherwise lose his year. Experience has shown that when standing for honours or for scholarships is being considered it is impracticable to include the full value of the bonus, and the Committee on Examinations consequently set up a working rule, approved by the Council, that only one-half of the bonus would be included in considering the marks for honours or scholarships.

The examination results for the session were gratifying. This was particularly true of the first year, since some doubt had been entertained as to the probable performance of students in a class of record-breaking size where the teaching, by reason of excessive numbers to be taught, would likely suffer in some respects. However, the percentage of failures for the first year was found to be substantially less than the average percentage for some years previous. It is believed that this constitutes an indication of the serious purpose of the large numbers of young men who entered the Faculty in the autumn of 1941.

After giving careful consideration to the unprecedented demand for technically-trained men, Council undertook, in so far as practicable, to retain students in their courses, so that they might be of the greatest possible value to the country. It was consequently decided that no general early release of students would be granted with assurance that students so leaving would be given their years. Notices were posted early in the session announcing that students of the graduating class would only under very unusual circumstances be recommended for their degrees before the completion of the work of instruction, including the examinations. Students in other years were given no promises respecting academic standing if they should leave early, but were merely informed that in the event of so doing their cases would be considered generously on their return to the University at the conclusion of the war.

This plan of urging students to complete their years was adopted in close consultation with the Wartime Bureau of Technical Personnel. The Bureau has felt great concern respecting the availability of technically-trained persons and is most anxious that the maximum possible number of men should complete their years.

From time to time, unofficial suggestions have been made that the regular engineering courses of the Faculty should be accelerated by the elimination of most or all of the holidays. Since matters of government finance are involved in acceleration and all the universities of Canada giving engineering courses would be affected, it was deemed desirable to seek guidance in this respect from the Wartime Bureau of Technical Personnel and to defer any acceleration until the government authorities, who are alone in possession of all the available facts, should ask for a speeding up of the courses. No request has so far come for acceleration, and none has therefore been attempted. Indeed, the programme of the Wartime Bureau of Technical Personnel has led definitely in another direction, involving the placement of the maximum possible number of undergraduate engineering students in essential industry during the summer. It has been felt that the usefulness of the graduate is very largely dependent upon his having a substantial amount of important practical experience interspersed between the sessions of theoretical instruction. The Faculty has collaborated in the carrying out of the desired programme of the Bureau.

During the session, careful consideration was given to the practicability of reducing the numbers of students in lecture groups for the first and second years to a maximum of 100. Despite many complications arising from shortage of

staff and lecture-room space, plans have been devised for carrying out this plan for the session 1942-3 for nearly all the lecture subjects of these two junior years.

The uncertainties facing students of the very large first year suggested the desirability of setting up some form of student adviser service. In the early part of the second term, Council approved of a plan in accordance with which 19 members of the staff were appointed to act as advisers to about 25 students each. Although the period of trial was somewhat short, the results were sufficiently encouraging to warrant the continuance of the plan for another session.

Careful consideration was given by Council to a report of the Committee on Policy respecting the advisability of establishing night classes in Engineering leading to a degree. The proposal was that the first two years might be given in this manner, it being necessary to spend three years in night classes in order to cover the work of one year in the regular daytime classes. The Engineering Alumni Association was asked to carry out a survey among industries in the Toronto area, but after discussing the matter with representatives of 38 industries, the Association reported that the small amount of interest in the plan on the part of those in industry made it undesirable to embark upon it at the present time. Extraordinary preoccupation in war activities would appear to have affected the opinion to an important extent. Parallel inquiries among the principals of high schools and collegiate institutes in the Toronto area showed some interest on the part of students in Grade XIII, but not enough to warrant any action in the immediate future.

Throughout the session, valuable assistance has been received from the officers and members of the Engineering Alumni Association. Numbers of meetings of departmental staffs have been held with Alumni advisory committees, and it is believed that the work of the Faculty has been materially assisted by these conferences. There seems no doubt that very great value will attach to the counselling service that the Engineering Alumni Association is offering to students who are considering entering upon the study of engineering. Through this means it is probable that the general quality of the students entering this Faculty will be still further improved.

In the belief that numbers of young men of unusual capacity might with a little initial financial assistance be encouraged to enter upon the study of engineering, a request was made that the Board of Governors make available for the session 1942-3 a sufficient sum for six bursaries each to cover the first term's fees. This permission was granted, and the principals of the secondary schools have been circularized, asking for confidential recommendations of unusually able students in need of financial assistance.

With much satisfaction the Faculty learned during the session that the Hydro-Electric Power Commission of Ontario had endowed the H. W. Price Research Fellowship in Electrical Engineering in consideration of the services of Professor Price in developing highly important equipment for frequency regulation of power systems. Stimulation of electrical research will undoubtedly flow from this.

Through the generosity of the late George R. Mickle, formerly Professor of Mining Engineering, the Faculty has been made a residuary legatee in his will. In the course of time a very considerable sum will be realized from this source for scholarships and bursaries.

Generous financial assistance from the Ontario Association of Architects, from certain manufacturers, and from the Board of Governors has made it possible to have constructed in the School of Architecture a much needed room equipped for the display of materials used in building construction.

Steps have been taken to bring about the completion of building plans for the Faculty, so that the funds available in the Wallberg bequest will be applied at the earliest practicable date to overcome the congestion that has long existed.

C. R. YOUNG

REPORT OF THE SECRETARY OF THE FACULTY OF HOUSEHOLD SCIENCE

The registration in the Faculty of Household Science has been, in total, similar to that of recent years but with a larger number than usual in the second year. This resulted from the closing of Macdonald Institute, whose buildings have been taken over by the Air Force for the duration of the war. We are likely, in consequence of this closing, to have a smaller number of new students entering our third year, into which, in late years, we have been admitting graduates of that institution.

While the registration of students in this Faculty shows little change, the staff have had a very busy year with the teaching of large numbers of students of the Faculty of Arts who are registered in the course in Household Economics and of others in the Pass course who are taking work in Household Science and Food Chemistry. Most of our undergraduates who are wishing to take Household Science work are now entering the course in Household Economics, as the entrance requirements are very similar in the two courses, and the Arts Faculty offers the advantages of college life and gives more certainty of providing living in residence. Our own Faculty does, of course, give opportunity to continue with the study of Household Science to students from other universities or colleges after they have completed preliminary scientific work there.

There have been very considerable changes of staff during this session. We began the year with four new instructors; during the year, two of the staff left us and we are now losing three more. Although marriage accounted for three of these changes, our most serious losses were due to the fact that very much higher salaries than those we are giving are now available for women prepared as are our graduates and instructors.

The demand for graduates with the training we can give is even greater than it has been, and graduates of this year's class are already engaged as dietitians and as laboratory workers. Others are going on as teachers. Our graduates, with experience, are being called by branches of the military services with consequent depletion of the workers in civilian occupations. We may therefore expect a large registration next year for Household Science work.

C. C. Benson

REPORT OF THE DEAN OF THE ONTARIO COLLEGE OF EDUCATION

The third year of the war presented many grave problems to the Ontario College of Education. Enrolment fell to an unprecedented low level; the student body was further depleted by the demands of the active service forces and the meteorological service, and by other similar calls. Towards the close of the year many of the abler teachers-in-training were released for emergency supply work in the schools of the province. From the staff, Dr. G. A. Ferguson and Mr. L. E. Hayman entered the armed forces; Mr. H. A. McGuire joined the National Selective Service Board. There was a marked shortage of candidates for teaching posts involving mathematics, science, physical education, shop work, and home economics.

The College suffered a severe blow in the sudden death of Dr. Peter Sandiford, Professor of Educational Psychology and Director of the Department of Educational Research. Dr. Sandiford's pre-eminent scholarship, his enthusiasm for research, and his keen interest in his students had combined to make him a driving force in Canadian education since he joined the staff in 1913. At his death, Dr. John A. Long was promoted to be Director of the Research Department; the lecturing in Educational Psychology was shared by Dr. Long, Professor A. Macdonald, and Dr. R. W. B. Jackson.

The Department of Educational Research met ever-increasing demands for work of a confidential nature from the active service forces, from the federal Department of Pensions and National Health, and from the Canadian Legion

War Services. It found time, too, to continue and develop its regular research programme. In a department characterized by untiring industry and a high sense of duty, the energy and devotion of Dr. R. W. B. Jackson deserve special mention.

Members of the College staff continued to give part-time voluntary service to many organizations aiding in the war effort.

The Library School completed another successful year; thirty-two candidates secured the degree of Bachelor of Library Science and one the University's diploma. Miss Bertha Bassam, of the staff of the School, was absent on leave for graduate study at Columbia University; Mr. M. P. Boone did excellent work as a substitute instructor. Miss Margaret Faircloth was added to the staff.

The close of the year saw the retirement of Mr. H. A. Grainger, Science Master in the University of Toronto Schools since 1910. Mr. Grainger's record in preparing students for the University and candidates for Matriculation scholarships is an enviable one. His effectiveness among the teachers-in-training has been no less striking. The staff of the University Schools was greatly strengthened by the addition of Mr. C. T. Sharpe, for many years a master in the Normal Model School, Toronto.

J. G. Althouse

REPORT OF THE DEAN OF THE FACULTY OF FORESTRY

At present there is a shortage of technically trained foresters in the lumber and pulp industries and in some of the governmental services. This condition developed before the war and has since become acute because of the expansion of the wood-using industries for war purposes and because of enlistments of technically trained men.

Over 22 per cent of all the graduates in Forestry and a large number of undergraduates are in the armed forces. Thus it has become impossible to meet the reasonable requirements of the governments and of industry. Furthermore, any rehabilitation projects in the post-war period will be seriously handicapped by a shortage of trained personnel.

During the session a Forestry Memorial Scholarship of $250 per year was established through the generosity of an anonymous person. It is available to entering students only and will undoubtedly be a factor in encouraging young men to study forestry. Provision is being made by the Forestry Alumni to continue the scholarship beyond the first ten-year period. In addition, the White Pine Bureau, an association of lumbermen, is establishing a scholarship of $100 per year open to students entering the second year. These scholarships and the recently acquired University Forest will increase materially the opportunities to young men entering this Faculty.

Dr. C. D. Howe retired as Dean of the Faculty at the close of the 1940-1 session. During his years of service he gained many friends for the forestry profession.

G. G. Cosens

REPORT OF THE DEAN OF THE FACULTY OF MUSIC

Owing to increasing activities in the concert field, the writer has found it necessary to resign his position as Principal of the Toronto Conservatory of Music, though retaining the office of Dean of the Faculty of Music. Mr. Norman Wilks, for six years the able and indefatigable Executive Officer of the Conservatory, has been appointed Principal, and the good wishes of all his colleagues go with him as he assumes this new burden of office at the beginning of September.

During the year 1941-2 the number of students registered for the Mus.B. degree was 33: 5 of these were registered in the first year, 15 in the second, and 13 in the third. The degree of Bachelor of Music was conferred on 9 students. No doctorates in Music were conferred.

The number of students registered in the Music course of the Faculty of Arts was 24: 5 of these were registered in the first year, 4 in the second, 7 in the third, and 8 in the fourth; 8 completed the course this year. Lectures and tutorial classes in the course have been given by Professor Healey Willan and Professor Leo Smith.

Eight organ recitals were given in Convocation Hall by Professor Willan, University Organist.

Musical activities at Hart House have been carried on much as usual, with little or no diminution of interest nor of attendance, though in view of war conditions the Friday afternoon recitals have been temporarily discontinued. The Hart House Glee Club, under the direction of Dr. Charles Peaker, has maintained its membership and its musical standards surprisingly well.

Mr. J. L. Richardson, University Carillonneur, has given his usual series of recitals in the Memorial Tower.

The Hart House String Quartet has given four enjoyable programmes at its May Festival in the Great Hall of Hart House.

The Conservatory Choir gave its annual performance of Bach's "St. Matthew Passion" on March 31, in Convocation Hall; the hall was filled to capacity, all seats having been sold a week in advance. The choir also sang Mozart's "Requiem" in Convocation Hall on December 5, this being the 150th anniversary of the composer's death. The Requiem and Part II of the "St. Matthew Passion" were broadcast over the CBC network. On January 20 the choir was associated with the Toronto Symphony Orchestra in a performance of "A Sea Symphony" by Vaughan Williams.

The Conservatory Orchestra, conducted by Mr. Ettore Mazzoleni, gave an admirable programme in Convocation Hall on February 4. The chief works on the programme were Vaughan Williams' Masque "Job" (played for the first time in Canada) and Brahms' Second Symphony. The latter work was repeated with great success in Massey Hall at the Annual Closing Concert of the Conservatory on April 28.

The Conservatory String Quartet has given three fine programmes, one each in the months of February, March, and April. The Chamber Music Club of the Conservatory has also had a most successful season.

The Conservatory String Orchestra, under the direction of Mr. Harold Sumberg, played with success at the Conservatory Closing Concert in Massey Hall on April 27. The Junior Orchestra of the Conservatory, conducted by Miss Lina Adamson, gave its annual concert on April 14.

Four concerts have been given for the benefit of the Myra Hess Fund by members of the Conservatory Faculty; proceeds from these, to which was added the surplus receipts from the performance of Mozart's "Requiem," have made it possible to send approximately £200 to this fund which supports the famous Wartime Concerts at the National Gallery in London. The Conservatory Women Teachers' Association and other Conservatory organizations have been active in war work of various types.

In addition to the usual two Closing Concerts in Massey Hall during the summer term, student recitals at the Conservatory have been numerous and varied: one might mention in particular the concert given by the Junior Choirs on May 22 and the two Branch Closing Recitals on May 26 and 28.

Among the many new works by members of the University and Conservatory Faculties given first performances during the season, one might mention particularly Dr. Healey Willan's radio opera "Transit through Fire," commissioned by the CBC and performed over its network on March 8.

The annual Summer School has been planned by the Conservatory to be held during the month of July. A number of interesting courses covering in particular, teaching methods, will be given by members of the Faculty.

It is with great regret that one records the death of Captain A. J. Williams,

R.C.A.F., formerly teacher of trumpet at the Conservatory; Captain Williams had been engaged in instructing pilots from the beginning of the war and was piloting a bomber to England when the plane crashed at Moncton, N.B., on August 3, 1941.

The Conservatory has sustained another loss in the death of Mr. David Dick Slater of its Vocal Faculty, on March 31, and of Miss Maud Gordon, retired member of the Piano Faculty, on March 23.

At the end of May registration for tuition at the Conservatory of Music was 5,105; the number of candidates for examinations for the present season was 12,963.

ERNEST MACMILLAN

REPORT OF THE DEAN OF THE SCHOOL OF GRADUATE STUDIES

The number of students registered in the School of Graduate Studies for the year 1941-2 was 439. Of these 352 were men (a decrease of 33) and 87 were women (a decrease of 18). The number registered for the Ph.D. declined from 144 to 133, and the number registered for the M.A. from 142 to 138.

The number of students who obtained the Ph.D. degree was 37, an increase of 3. The M.A. degree was conferred on 75 candidates, an increase of 3. The details will be found in Section VII of the Registrar's Report.

The number of students resident in Toronto was 178: the number from the Province of Ontario (excluding Toronto) was 95. (For details see Section XI of the Report of the Registrar.) The students in the School of Graduate Studies represented 19 universities in Canada, 10 universities from other parts of the British Empire, 24 institutions in the United States, 9 universities in China, and 3 in Europe. The distribution of the candidates according to the major subject is shown in the Registrar's Report, Section VII. The wide distribution of the universities from which the students come to Toronto is a feature of the enrolment which deserves comment as it is both a testimony to the efficiency of the instruction provided and a very important factor in maintaining the reputation of the University and supporting that goodwill from which we have benefited so much in the past.

The fellowships and scholarships awarded by the Council of the School are given below. This list does not include the awards made directly by the Faculty of Medicine, College Councils, or other independent committees of award:

Open Fellowships

S. Mitchell, B.A. Manitoba, Department of Mathematics; E. Sirluck, B.A. Manitoba, M.A. Toronto, Department of English.

Alexander Mackenzie Research Fellowships

Miss A. M. Wright, B.A. Toronto, M.A. Queen's, Department of History; W. C. Hood, B.A. Mount Allison, Department of Political Science; Miss E. M. Rosengren, B.A. Alberta, Department of Political Science (Special Award).

Ramsay Wright Fellowship

J. C. Stevenson, M.A. Saskatchewan.

Reuben Wells Leonard Fellowships

H. C. Pentland, B.A. Manitoba, M.A. Oregon, Department of Political Science; A. P. Stinson, B.A. Toronto, Department of History; W. D. Graham, B.S.A. Toronto, M.S.A. McGill, Department of Biochemistry; M. H. M. MacKinnon, M.A. Toronto, Department of English; J. D. Grant, M.A. British Columbia, Department of English; S. D. Simpson, B.A. Toronto, Department of Biochemistry.

Special Flavelle Fellowships

R. P. Bates, M.A. Toronto, Department of Philosophy; W. L. Grant, B.A. British Columbia, M.A. Harvard, Department of Classics.

Canadian Industries Limited Fellowship
G. J. Janz, B.Sc. Manitoba, M.A. Toronto, Department of Chemistry.

Sigmund Samuel Scholarship
F. Y. S. Tseng, B.Sc. St. John's (Shanghai), M.A. Toronto, Department of Chinese Studies.

Staff appointments with reduction of fees: 114.

It is gratifying to be able to record a further increase in the number of scholarships available for students undertaking graduate work. The additions made during the past year are

(1) The Annie L. Laird Scholarship in Household Science.
(2) The Sigmund Samuel Scholarship in the Department of Chinese Studies.
(3) The H. W. Price Research Fellowship in Electrical Engineering donated by the Hydro-Electric Power Commission of Ontario for graduate students recommended by the School of Engineering Research.
(4) The Newton Wesley Rowell Fellowship in Law for students in the School of Law proceeding to the degree of Master of Laws or Doctor Juris.

The increase in the number of scholarships available is gratifying: as stated in previous reports, the demand for such resources continues to be urgent and it is hoped that there will be steady progress in the growth of these funds.

G. S. Brett

REPORT OF THE DEAN OF THE FACULTY OF DENTISTRY

During the year 1941-2, 42 students enrolled in the first year, an increase of 10 students over last year. The second year was augmented by 37 *ad eundem* students, mostly from Western Canada. The total enrolment was 279 which included 3 occasional students, 2 graduates proceeding to the degree of B.Sc. (Dent.), and 20 women in the course in Dental Nursing.

Owing to the emergent need for dental officers in the Canadian Dental Corps, the course for the fifth year was condensed so that Commencement was held on April 2, 1942, for dental students. Of the 40 graduates, 36 joined the Dental Corps immediately, 1 intended to on his return to Vancouver, 2 were not physically fit, and 1 was a woman, a native of Bombay, India. She was the first woman of India to obtain the degree of D.D.S.

Of the class in Dental Nursing, 19 were successful and the demand for their services is such that almost all found immediate employment.

Five graduates from widely separated areas in Ontario attended for periods varying from one week to one month during the year and took refresher courses in the Departments of Periodontology, Dental Surgery, and Denture Prosthesis. Lieut.-Colonel J. E. Wright returned from overseas and took a general refresher course of one month.

Commencing May 4, 1942, 60 enlisted men from the Canadian Dental Corps reported to take the Dental Technicians' Training course. This course is being held at the request of the military authorities and I understand that the members of the course hold qualifications which would enable them to register later in a regular course in Dentistry.

Owing to war conditions, and the need for dental officers in the Canadian Dental Corps, the course in Dentistry will be accelerated, at the request of the Dominion government.

Students entering the first year will register on Tuesday, September 22, 1942, the regular opening day of the session. The academic session for students in first year will end on May 15, 1943. The successful students will register in second year on Monday, August 23, 1943.

For students in the second, third, fourth, and fifth years, the course will

begin on Monday, August 24, 1942, and the session will end on Saturday, April 10, 1943. The successful students will then proceed immediately to the next higher year of the course, beginning on Monday, April 12, 1943. After a shortened summer vacation beginning July 10, 1943, the course will be resumed on August 23, 1943, and the academic session for these students will end on December 18, 1943.

It is expected that students in the fourth and fifth years who are eligible will enlist in the Canadian Dental Corps as privates sixteen months prior to graduation.

The government of the Dominion of Canada has set aside a fund to be used as loans to students of the second and third years who, to continue the course under the accelerated plan, find it necessary to have financial assistance.

Through the generosity of the W. K. Kellogg Foundation of Battle Creek, Michigan, a grant of $10,000 was made to this Faculty to be used for loans and scholarships to students. The Faculty Council decided that these funds should be used for loans rather than scholarships for the duration of the war.

The following members of the staff have joined the Canadian Dental Corps during the year and have been granted leave of absence for the duration of the war: Doctors W. D. Cavanagh, L. A. Kilburn, W. G. McIntosh, and R. L. Twible. Dr. J. H. G. Harwood is joining August 1.

Dr. J. H. Duff has discontinued private practice to accept an appointment as dental officer on the staff of Christie Street Military Hospital. This appointment is under the Dominion Department of Pensions and National Health. Dr. Duff is being permitted to retain his connection with the college by teaching one period a week.

The war has added many extra duties and placed a heavier load on both staff and students so that increased concentration on the part of everyone was necessary. However, I believe the standard of education in this Faculty has been maintained and I appreciate the loyal co-operation of staff and students.

A. D. Mason

REPORT OF THE CHAIRMAN OF THE FACULTY OF THE SCHOOL OF LAW

Under the reorganization of the Faculty of Law, as the School of Law of the University of Toronto by Statute of the Senate, which came into force on July 1, 1941, the School of Law is now completely organized with its own Faculty Council. This reorganization has resulted already in distinct advances, which promise well for the future of the School, as it brings us into further and closer co-operation with the institutional life of law in its various activities not only in the universities of the United Kingdom and Canada but in those of the United States: the members of the Faculty are corresponding members of the Society of the Teachers of Public Law of the Faculties of Law in the United Kingdom; Professors Auld and Finkelman hold offices on Committees of the Canadian Bar Association; and a member of the Faculty attends the meetings of the American Association of Law Schools.

In the Bachelor of Laws course, 20 students are registered. In the Master of Laws course, 5 students are registered. We can look forward to larger registration in future. The Calendar of the School of Law has been revised.

There continues a large registration in the Honour B.A. in Law, which constitutes admission to the fiscal year of the LL.B. In the first year of this Honour course 34 students are registered; in the second year, 17; in the third year, 19; in the fourth year, 8. The war has already called many of our students to active service, as indeed it has many graduates of the School of Law.

The course for the Master's degree in Public Administration continues to progress in co-operation with the staff in Political Economy. The members of the Faculty of the School of Law provide the legal subjects for this course.

The members of the Faculty of the School of Law also continue to give law courses for Commerce and Finance, Psychology, Forestry, and Applied Science.

Under the Department of University Extension we are co-operating with that Department in the course for the certificate in Business. This course is meeting with great success.

Mr. B. Laskin has lectured on Optometrical Jurisprudence in the College of Optometry for the session.

Professor Auld continues to take an active part in the Canadian Association for Adult Education and he, with the Chairman of the Faculty, assists in the work of the Workers' Educational Association.

The Law Club of the School of Law and its attendant Moot Courts continue to flourish. At the Annual Banquet held in Hart House Great Hall, through the courtesy of the Stewards, we were fortunate to have as our guest, Professor Samuel Williston of the Law School of Harvard University, a legal scholar of international reputation. As one of the most famous members of that School of Law in the period of its creative growth, his visit was a source of great inspiration and profit to us.

The *University of Toronto Law Journal* and the *Series of Legal Studies* continue their progress with a well-established reputation. We would like to thank the staff of the Publications Department of the University of Toronto Press for their generous and unstinted co-operation.

The Library has now advanced to the position of being the best University Law Library in Canada. To friends, especially Mr. C. P. Megan of Chicago, we owe sincere thanks for generous gifts, and to the Librarian and his staff for assistance and benefits which have done so much in our progress.

Generous friends continue to keep us in scholarships and prizes: the Honourable Charles McCrea, Dr. H. G. Fox, Mr. R. K. Ross, the Carswell Company, the Labour Research Institute. In this connection we are sorely in need of Fellowships for graduate studies. Students are looking to us from all over Canada for advanced work in law, and nothing could assist us more than the provision of Fellowships.

The Faculty of the School of Law continue, by their publications, to advance legal scholarship, and I am fortunate in colleagues who, one and all, so successfuly combine their regular teaching with productive scholarship.

During the session, we suffered a great and outstanding loss in the death of the Honourable Newton Wesley Rowell, former Chief Justice of Ontario. It would be impossible to tell in detail of his help as much of it was intangible but no less real and creative. He presided over the birth of the Law Club and was its honorary president until his final illness. He conceived the idea of the *University of Toronto Law Journal*, and accepted, unwillingly it is true, the dedication of its first issue. He and Mrs. Rowell endowed the Langford Rowell Scholarship in Law. These permanent contributions to our work tell little of what he meant to us. He was our guide, and our friend. He brought to our activities a continued personal interest. He gave us of his high idealism, of his zeal, of his ripe judgment. He followed the careers of the Langford Rowell Scholars with personal attention. Our debt to him is great, our loss severe. Though he has left behind him with us much that will preserve his memory, yet we believe that plans will be laid to create in the School of Law some permanent memorial to him.

By arrangement with the Council of Legal Education in London, West Indian students may be admitted to an English Inn of Court and keep their terms *in absentia*, during the war. The School of Law has been established in the University of Toronto as an oversea centre for the English Bar examinations, and West Indian students admitted to the School and those who take a degree in law may be granted dispensation from most of the subjects of the English Bar examinations.

W. P. M. Kennedy

REPORT OF THE DIRECTOR OF THE SCHOOL OF PHYSICAL AND HEALTH EDUCATION

From being a Department under a Standing Committee of the Senate, this course was established by the Board of Governors on the recommendation of the Senate as the School of Physical and Health Education to be administered by its own Council. It was thus placed on a status similar to that of the other Schools in the University. The Council, consisting of representatives from the Faculty of Arts, the Faculty of Medicine, and the Departments of Physical Education for Men and Physical Education for Women, met and appointed Standing Committees to report upon Curriculum and Examinations, Applications and Memorials, Calendar and Library, and Physical Education. The Committee on Curriculum and Examinations consists of representatives of the three aspects of the course, viz., Arts and Sciences, Health Education, and Physical Education. A constitution with rules and regulations was drawn up and adopted by the Council.

That there is a growing demand for an education in the means whereby health can be maintained, promoted, or restored is becoming increasingly evident from the defects and deficiencies in physical and mental fitness found in the examinations of individuals for the armed forces. That over 40 per cent of men in Canada are not healthy enough for enlistment for active service is a clear indication that too little attention has been paid in the past to the use of the known scientific knowledge of the human body for the purpose of raising the standards of health of the growing young men and women in this country. It is hoped that this aim may be attained by educating and training an ever-increasing number of students in this course so that they can go out in the world and teach the value of positive health not only to the next generation in the schools, but to the present adult population in their various walks of life. Next to life itself, health is our most valuable possession.

During this second session of this course, there were 35 students registered in the first year, 12 of them being men and 23 women. Two of the men signed up for active service and did not complete the year. In the second year there were 4 men and 10 women, and in addition there were 6 women in the diploma course who took the courses of this year in order that they might enter the third year of this course and obtain its degree next session.

Twenty-seven students who had been in the first year of the Margaret Eaton School last year completed their second year under the women's staff in Physical Education of the new School in the University. They were awarded the Margaret Eaton School diploma at their closing exercises in the Eaton Auditorium. As the Margaret Eaton School was merged with the School of Physical and Health Education last spring, this was the last graduating class. Miss Florence Somers, who has been the Director since 1934, expressed the hope that the fine traditions of the Margaret Eaton School, which began its career in 1906, would be continued in what she aptly described as the fourth stage in the history of their school. The handing over of the symbol of student government in the Margaret Eaton School, the discobulus, by a graduating Margaret Eaton student to a woman student in the School of Physical and Health Education, should serve to preserve the connecting link between the past and the future.

Instruction to the second-year students in Functional Anatomy, the purpose of which is to provide a basic knowledge of the structure of the living body and of the features characteristic of health, was given for the first time and proved to be of great interest both to the students and the staff. Applied Physiology in which a fundamental knowledge concerning the functioning of tissues and organs in the healthy body, and their variations consistent with health, also had its initial presentation. The methods used in the investigation of the manifestations of health and of the examination of the well person with a view to making an

assessment of his health were taught in the course on Health Assessment and Promotion. Lectures were given on the structure and functions of the digestive tract and the relation of their functions to the maintenance of health by proper nutritional intake. The brain and nervous system were explained, showing the importance of its healthiness to the health of the whole body. The human body as a total organism was also presented. In Psychology a lecture and discussion course was given on the development of the child and adolescent with principles of training for good mental health.

In the instruction in Physical Education for Men the basic principles of various games and sports were taught, along with the technique and methods of coaching and officiating in team games. Opportunities were given whenever possible for the students to undertake practice in the application of the principles taught. The problems involved in the organization and administration of athletics and of physical education were presented to the students.

Although the number of men students in the first and second years was small, their teams in Basketball and in Gymnastics succeeded in winning the intramural competitions in these sports.

Physical Education for Women included not only practical work in gymnastics, dancing, swimming, games, and sports, but also a thorough study of the fundamentals of these activities. It covered a knowledge of the methods of presentation and evaluation of gymnastic activities, and an understanding of the principles underlying the modern dance and the development of rhythm. The technique of organization and methods of coaching and officiating were presented with the study of the various games and sports.

E. S. Ryerson

REPORT OF THE DIRECTOR OF THE SCHOOL OF SOCIAL WORK

For the profession of Social Work war-time is a strenuous and difficult time. The demands upon the profession have increased manifold, with correspondingly increased demands upon the schools of Social Work and their staffs. Despite these extra demands on our staff, however, the School can report an effective year.

Total registration was somewhat below that of last year; the loss was wholly in the second year and special student groups, however, as the first-year registration was slightly increased over the preceding year. Our concern for the ensuing year is later expressed.

The Council of the School, created last year, has strengthened the School's structure and functioning. Its initial meeting was an auspicious one, with a full attendance and an address by the President. The Chairman, Dr. Innis, has contributed wise and friendly counsel throughout the year. Through the Council, the relationships of the School to other faculties and schools have been cleared and strengthened.

The curriculum changes, advancing certain courses from second to first year, have so far worked out well. The case-work field has been strengthened by the continuation of the two part-time assistants, Miss Dorothy Hobden and Miss Bessie Gemmell; this arrangement will be continued. The social research area is also strengthened by Dr. Strong's course and supervision; her teaching and counsel have been valued during the year.

The Director had the professional opportunity and honour of serving as the representative of Canadian Social Work on the Mission to Britain of the (now) British Children's Fund, and of reporting his experience extensively in Toronto, at the Canadian Conference on Social Work in Montreal, and at the National Conference of Social Work. This most interesting experience has broadened and enriched his professional knowledge, and he has been happy to share it with the professional communities in Canada and the United States. He is most grateful to the loyal staff for their additional efforts in his absence.

Professional education for Social Work is everywhere facing a serious situation. The professional field is rapidly expanding and will continue to do so. Due to the manpower situation, however, fewer students are enrolling, and the shortage of professionally educated workers, already marked, will soon become acute. To meet this threatening situation broad measures are being taken, both by the School and by the profession. With the valued help of the Director of University Extension and Publicity, much more extensive measures of information and recruiting have been taken than ever before. The profession, also, is taking steps looking toward support from the Dominion government, whose new social services have been absorbing many professional workers from private agencies.

In the attraction of competent students to the School, scholarships and bursaries are increasingly important. It is with large satisfaction, therefore, that the School reports the establishment of a substantial new scholarship in Public Welfare, the gift of the Toronto *Daily Star*. Additional scholarships and bursaries would be of particular value at this time.

The professional future of Social Work is a large and growing one. My recent visits to Great Britain and the United States showed the profession in great demand, charged with the administration of an ever-increasing and more responsible area of social work. Our Canadian situation is equally pressing, in the present emergency, and for a necessarily expanded programme of post-war social services. In these difficult days our schools of Social Work have a responsibility of vital national importance; we shall continue to serve to the limit of our strength.

S. K. Jaffary

REPORT OF THE DIRECTOR OF THE SCHOOL OF NURSING

The outstanding event of the past year—the ninth in the life of the School—has been the establishment, by the Senate, of the degree of Bachelor of Science in Nursing, and the approval of certain courses of study leading thereto. For the present, the former three-year diploma course will be continued and the new course, four years in length, will be added. Generous support of the policy of this new work from the nursing departments of the Toronto hospitals, and from the public health nursing groups, has made it possible for the University to shape these initial plans, but the work itself must be considered as in the experimental stage for some time to come and, therefore, to be started under carefully controlled conditions; hence only a very small class will be enrolled at the beginning.

There have been various reasons for refraining from degree work up to the present. In the first place we have shared in the more conservative attitude toward the rapid development of new degree courses in the American and Canadian universities and thus have held back deliberately. Furthermore, and quite apart from educational philosophy, it was obvious from the standpoint of practical working conditions that at the time the School was started there was no possibility of organizing sound degree studies. To this new nursing school a more urgent task was presented, one that was given precedence over everything else in its initial work because, in our belief, it provides the key to all progress in basic nursing education, which progress, in its turn, must lay the foundation for sound development in post-graduate work. This first task was the gaining of control over the practical work of student nurses on the hospital wards and, having obtained control, to give order and form to this work of the student in order that educational values should take the place of service economics as the controlling factor. In other words, student practice and hospital nursing service must be recognized as two entities, each under its own administrative control, even though the entire interests of both are closely interwoven. This was a task to absorb the entire strength of the new School, and we have no hesitation in

saying that it would have been interfered with, even to tragic proportions, if any confusion over another objective, such as degree requirements, had been introduced at that stage. Already in many schools valiant efforts were being made to effect improvements in nursing education in other ways, or at later stages, but at the time this school was organized no other Canadian nursing school had been given financial freedom and administrative independence to deal directly with this fundamental matter upon which all depends. Unless change occurs here, everything else in nursing education will be conditioned.

Custom has given the hospital an extremely powerful grip on the work of the so-called student nurse, and although the confused use of the student's time which has resulted therefrom has satisfied nobody, nevertheless it has been supported (intentionally and unintentionally) by the very groups that never ceased to criticize; this because of the fears, prejudices, and jealousies of the opposing groups, aided often by the easy phrases of a superficial educational jargon. Our first task, therefore, was the establishment of good teaching and learning conditions for every day (or night) spent in the hospital wards by the student nurse so that she could make orderly progress in mastering the art of nursing, and do this with due economy of time. As satisfactory progress has been made in this regard, the School is now in a position to turn to the claims of a degree course, which claims have become rather pressing because of rapid developments in degree work both in our own University and in many other Canadian institutions. This School now accepts the fact that the trend toward new degrees has been established beyond argument from any one single professional group; that, apparently, worthy standards can be set up and maintained; and, most pertinent of all, that professional education in our own field of nursing may be strengthened greatly by the proper use of this type of university work. It will be a hard road to travel, both strait and narrow, but this School should be able now so to use its professional and academic resources that safe progress can be made.

The war has brought the School a great variety of work during the past year. In the regular courses for graduate nurses the classes have been expanding as young nurses are urged to prepare as quickly as possible to take the place of the instructors, supervisors, and public health nurses (with special post-graduate training) who have been taken from their former positions to serve in military units. In addition to these regular programmes of teaching, many special or refresher courses are being requested in order to make the fullest possible use of all available nursing service, and particularly to prepare married or retired nurses to return to professional work. During the past year this School gave eight of these refresher and extension courses, and dealt thus with 1,448 graduate nurses. Also we have been called upon to help organize and prepare various groups of nursing aids (both volunteer and paid workers) and the members of our staff have given much assistance in this connection. In all of this we have been responding to requests from public bodies that have a very real claim on the University, for example, the provincial government, the Toronto Department of Public Health, the Red Cross Society, the Ontario Registered Nurses' Association, industrial firms, and so on.

This present increase in demand for nursing service comes simultaneously from both the hospitals and the public health field and represents many kinds of particular need as well as an urgent call for larger numbers in the usual forms of work. Undoubtedly the demand will increase steadily and rapidly in the immediate future, and every kind of help will have to be pressed into the service of the hospitals—both civilian and military—in order to give adequate care to the sick and wounded. Also the public health services must be staffed as their work expands under war conditions. As has been suggested the tendency on the part of the public and professional groups is to turn to the University for aid to meet all these needs, so this School must be prepared for a yet heavier increase

in its work. For the coming year very large classes are being enrolled. It is becoming almost impossible to handle all this variety of work in the very cramped quarters of the School. The law of diminishing returns is operating and the conditions are bad enough to make us wonder, even in war-time, if a new building may not be a necessity for this essential service. Because of its proximity to the hospitals, it is imperative that the School remain on the present site, but the old building now in use is in such poor condition tnat additions to it cannot be considered. Hence every effort must be made to have a new building constructed at the earliest possible date.

Just as the year closed the School received from the W. K. Kellogg Foundation the generous gift of $4,000 to establish a bursary and loan fund for students. The donors state that they hope this money will be used "chiefly for the purpose of encouraging exceptional students otherwise unable to enter the field of nursing." The School wishes to express very sincere gratitude for this gift and the interest which it represents.

E. K. Russell

REPORT OF THE DIRECTOR OF THE SCHOOL OF HYGIENE

The war has quickened the demand for physicians with special training in public health as well as for public health engineers and nurses. It is gratifying that the need for trained sanitary officers in the armed forces has been met through the enlistment of personnel of public health departments and universities, the great majority of whom are graduates of this University in Public Health. Including those receiving the diploma in Public Health in 1941, the number of physicians who have received this diploma now totals 243.

In spite of the difficulties facing physicians in leaving their practices at this time, and of the demand for their services in the armed forces, the total number of physicians registered in the diploma in Public Health course during the session 1941-2 was 24. Of this number, one physician was from Jamaica, 1 from China, and the remaining members were from four of the provinces of Canada; 8 were from the Province of Quebec, 9 from Ontario, 4 from Manitoba, and 1 from Alberta. To permit of the graduation of members at the earliest possible time in view of the need for hygiene officers both by civil and military authorities, the course was commenced on August 24 and completed on April 18.

The number of students receiving instruction in the departments of the School of Hygiene during the session was as follows:

A. *Graduates*	
Candidates for diploma in Public Health	24
Candidates for degree of Ph.D.	4
Candidates for degree of M.A.	1
Candidates for degree of M.S.A.	2
Occasional students	2
B. *School of Nursing*	74
C. *Undergraduates*	
Faculty of Medicine, fifth year	107
Faculty of Household Science, second and third years	28
Faculty of Arts, second, third, and fourth years	94
Second-year Pharmacy	78
Physical Education for Women	4

To meet the urgent need for engineers with public health training, provision was made during this year for the granting of four special fellowships, each having the value of $1,500, to assist graduates in Engineering to receive public health training. The School of Hygiene has provided a course in Public Health Engineering for several years, constituting the only course available in Canada. This year 4 candidates were enrolled and 3 completed the course and are now engaged in essential public health duties. This course was provided with the co-operation of the Faculty of Applied Science and Engineering and the Department of Zoology.

During the year special grants were continued by the Rockefeller Foundation to permit of the employment of additional personnel in the Department of Physiological Hygiene and Epidemiology and Biometrics, and for special studies in nutrition. Important assistance was also given for the conduct of studies through special grants from the Dominion government (studies in nutrition) and from the National Foundation for the Study of Poliomyelitis, and grants were continued by the Connaught Laboratories to the several departments of the School to assist in their programmes of research. Two fellowships were provided by the Banting Foundation.

The establishing of a new Sub-department of Virus Studies in the School of Hygiene this year marked a further development in the work of the School. For some years, instruction in virus diseases has been given as part of the courses in Bacteriology, Immunology, and Epidemiology. This instruction has been given by Dr. James Craigie, who has assumed direction of this new sub-department. For the purposes of administration, it has been established as a sub-department of the Department of Hygiene and Preventive Medicine. This department provides instruction in bacteriology and immunology not only to physicians proceeding to the diploma in Public Health, but also to graduates of other faculties desiring post-graduate courses in Bacteriology. Associated with Dr. Craigie in the Sub-department of Virus Studies are Dr. Ronald Hare and Dr. Raymond C. Parker. Courses are being provided in Virus Disease for graduates in Medicine, and facilities are being offered also for the training of laboratory workers in the field of viruses. The provision of these new courses marks an important advance in the University, and they are probably the first formal courses offered in Canada in the study of viruses.

Under the direction of Dr. D. Y. Solandt as acting head, the Department of Physiological Hygiene has been concerned with various research projects connected with the war. Work on blood substitutes, on wound shock, and along various lines dealing with problems encountered in chemical warfare and in naval operations has been undertaken. In addition, Mr. H. N. MacFarland, under the direction of Dr. J. G. Cunningham, has investigated the toxic properties of certain explosives.

Mr. Daniel Leyerle studied certain phenomena in the excitation of muscle tissue. Miss Janet Lock investigated the effect of blood constituents and tissue extract on fibrillation in denervated muscle.

Mr. John Hunter, working on a grant from the National Foundation for Infantile Paralysis of New York, continued the studies on the physiology of denervated muscle which have been in progress in this department for several years. The statistical evaluation of the effects of various forms of electric stimulation on the atrophy of denervation has led to results of practical importance.

Excellent progress has been made in the Sub-department of Nutrition, which was established last year. The staff now consists of 8 university graduates and 4 technical assistants.

The relation of the B vitamins to fat synthesis and metabolism has been under investigation in these laboratories for several years and it has been continued during the past year by Dr. Gertrude Gavin and Miss Jean Patterson. Miss Patterson has continued a study of the causes of the production of renal hemorrhages in rats fed a choline-free diet. Miss Madeleine Cornett, with the aid of a grant from the Banting Research Foundation, has studied the effects of pyridoxine on the utilization of protein.

Under a grant from the Banting Research Foundation, Mr. D. M. Young has studied the estimation of riboflavin in urine and in blood, using a microbiological procedure.

Mrs. Constance Young, working under a grant from the Department of Pensions and National Health, has studied the differences between calculated values for ascorbic acid and iron and the amounts actually present in a large series of meals.

In co-operation with Dr. William Mosley, and with a grant from the International Health Division of the Rockefeller Foundation, a nutritional survey of 850 students in East York Collegiate Institute was undertaken. Physical examinations were conducted by Dr. Eleanor Riggs of this department and by several other physicians on a part-time basis. Dietary records were secured by Miss Helen Perry, who also did measurements of capillary fragility and of haemoglobin. Dr. Riggs examined the eyes of each student for possible evidence of deficiencies of vitamin A and riboflavin. Measurements of dark adaptation were made by Miss Jean Patterson. This is the first large-scale, detailed survey of nutritional status carried out in Canada.

Increased demands have been made during the past year in providing special courses of instruction in Epidemiology and Biometrics for graduate students in Public Health Engineering. The department also undertook the direction of the Correspondence course provided during this year for part-time medical officers of health from municipalities in Ontario. In arranging this course, it was required that those taking the work should attend a special session in the School of Hygiene occupying one week. The difficulty of physicians in obtaining *locum tenens* presents an increasing problem in arranging the usual course requiring attendance. The correspondence course is a temporary provision replacing a more formal course of instruction extending over a similar period requiring full-time attendance in the School of Hygiene.

Dr. Mary Ross, Dr. Defries, Dr. Eric Davey, and Mr. Walter Moore undertook the study of the survey findings relating to full-time local public health services in Canada at the request of the Canadian Public Health Association. This study constitutes an important contribution to the subject of full-time health services.

Analysis of the data relating to deaths from diabetes in Ontario, during 1940, was completed by Dr. Ross. Dr. Ross has continued to assist members of the staffs of various departments by providing statistical services.

In 1940 the facilities of the School were extended through a co-operative plan which associated the School of Hygiene with the municipality of East York in the development of an adequate health department for that municipality. The provisions made possible the appointment of Dr. William Mosley as Associate Professor of Public Health Administration and as head of the Sub-department of Public Health Administration in the School of Hygiene and as Medical Officer of Health of the municipality of East York. Dr. Helen Thomson was appointed this year to assist Dr. Mosley, and to serve as Lecturer in Public Health Education. Dr. Thomson is a graduate of the University of Manitoba in the Faculty of Medicine and received the diploma in Public Health from the University of London. Both the School of Hygiene and the School of Nursing have benefited by the appointment of Miss Eleanor Wheler as Superintendent of Public Health Nurses in East York. The work in East York, including the three appointments mentioned, has been made possible through the provision of funds provided jointly by the Rockefeller Foundation and by the Department of Health of Ontario. This provision covers a period of four years dating from July, 1940. As a result of this co-operation, excellent progress has been made in the establishing of a health department in East York, adequate for the needs of this municipality of approximately 40,000 population. The municipal council of East York has continued to extend every co-operation and to forward the work in every way possible.

The work of the Department of Hygiene and Preventive Medicine and the Sub-department of Chemistry in relation to Hygiene is outlined in the report of Dr. D. T. Fraser to the Dean of the Faculty of Medicine.

The absence of four senior members of the teaching staff is, of course, seriously felt in the functioning of the School. These members are Dr. N. E. McKinnon, Dr. M. H. Brown, Dr. D. L. MacLean, and Dr. H. M. Barrett. A

number of other members of the teaching departments are also serving in the armed forces, necessitating continuous changes and re-arrangements to permit of the carrying forward of the programme of the School. The number of courses offered, however, has not been reduced.

R. D. Defries

REPORT OF THE DIRECTOR OF UNIVERSITY EXTENSION AND PUBLICITY

From small beginnings, twenty-two years ago, this department has developed a rather large array of diversified activities. In one phase of its work it is a large Arts College from which more than 40 men and women graduate each year with the degree of Bachelor of Arts. In the second sphere of activity, it is a large Faculty; and, in a third phase of its work, it is a School of Adult Education. In the session 1941-2 the total enrolment was 6,543. This figure does not, of course, include those who attended Extension lectures; it includes only those who were enrolled in continuous courses.

For purposes of record, a list of the enterprises conducted by this department may be useful: (1) Summer Session. (2) Teachers' classes in the evenings and on Saturdays. (3) Evening tutorial classes for adults. (4) Extension lectures in sixteen centres in Ontario. (5) The two-year diploma course in Occupational Therapy. (6) The two-year diploma course in Physiotherapy. (7) The two-year diploma course in Aerial Navigation. (8) The certificate course in Business in which instruction is given in the evenings. (9) The one-year certificate course in Radio Technique. (10) Correspondence courses for the Canadian Credit Institute. (11) Correspondence courses for Life Underwriters' Association. (12) Correspondence courses for Certified Public Accountants' Association. (13) Correspondence courses for International Accountants' and Executives' Corporation. (14) Correspondence courses for Chartered Institute of Secretaries. (15) Correspondence courses in Grade XIII subjects for teachers. (16) Correspondence courses in Commercial subjects for teachers. (17) A course of evening lectures on Retail Merchandising. (18) A course on the Canadian Economy as affected by the war. (19) A course on Accident Prevention. (20) A short course on the Principles and Practices of Real Estate Transactions. (21) A short course for Firemen, including Army and Air Force Firefighters. (22) A comprehensive project in rural adult education for people on the farms in the Counties of Simcoe and Oxford and in the District of Muskoka. (23) Educational advice is given to young people who wish to choose the course in University best suited to their needs. (24) The work of Canadian Legion Educational Services in Military District No. 1 and in No. 1 Training Command. (25) Correspondence courses in Grade XIII subjects for men in the Navy, the Army, and the Royal Canadian Air Force. These are provided to men stationed in the British Isles, in Canada, and in Newfoundland. (26) Correspondence courses in Arts subjects (not Science subjects) for men in His Majesty's Forces in Canada, Newfoundland, and the British Isles. (27) Educational advice provided by letter to men in the services who wish to prepare themselves to enter upon university courses after the war. An average of 150 letters per month of this sort. (28) Night classes for young men who wish to become pilots or observers and who lack the necessary qualifications. These are not included in the total enrolment of the department because the work is below university grade. In a year and a half Canada has been provided, through these night classes, with 460 potential pilots. (29) Publication of mimeographed books containing verbatim reports of lectures delivered in various Extension courses. These are sold at cost. (30) News stories and articles are provided throughout the year to daily and weekly newspapers and to various periodicals. (31) Mimeographing service is provided for several University departments. (32) A sixteen weeks' special course in Radio in co-operation with the Department of Physics. (33) A special

course in Personnel Administration conducted for the Department of Labour at Ottawa. (34) A short course in Nutrition. (35) A series of lectures on Social Work. (36) A short course on Housing.

In war-time the number of Extension lectures falls off sharply, chiefly because people who are giving as much time as possible to war work are unable to attend lectures. During this session 110 of these lectures were delivered as follows: Belleville, 3; Bowmanville, 2; Brampton, 2; Brantford, 1; Chatham, 1; Hamilton, 4; Kitchener, 1; Newmarket, 1; Niagara Falls, Ontario, 3; Niagara Falls, New York, 1; Orillia, 1; Oshawa, 1; Parry Sound, 1; Stratford, 2; Toronto, 85; Windsor, 1. Those who gave these lectures were: Dr. K. S. Bernhardt, Dr. A. E. Birney, Mrs. John Davidson, Dr. W. J. Dunlop, Professor J. R. Dymond, Dr. Norma Ford, Lionel M. Gelber, A. R. Gopal-Ayengar, Professor T. A. Goudge, Miss F. R. Hills, J. Campbell-McInnes, Mrs. W. E. Reynolds, R. G. Riddell, Dr. Kenneth Rogers, Dr. R. M. Saunders, Mrs. Homer Thompson, Professor J. O. Wilhelm, Dr. A. M. Wynne.

The total number of adults enrolled in Evening Tutorial Classes was 2,133, made up as follows: Accounting, 100; Advertising, 63; Authorship, 54; Cost Accounting, 47; Economics, 48; English Composition, 44; English Diction and Speech, 97; English Poetry, 37; English, Voice, Diction, and Speech, 77; French, 110; Industrial and Business Organization, 128; Interior Decorating, 69; Journalism, 66; Lip Reading, 30; Magazine Writing, 63; Mathematics, 25; Metallurgy, 53; Music Appreciation, 91; Nature Study, 40; Plastics, 137; Psychology, 172; Public Speaking, 167; Radio Theory, 47; Short Story Writing, 26; Spanish, 45; Swimming, 37; The World Today, 149; Industrial Chemistry, 54; Industrial Physics, 57.

A new feature this year and one which, it is hoped, may mark the beginning of a new movement and of a new bond between the University and the business world was the establishment of evening classes in Industrial Chemistry, Physics, French, and Psychology for the employees of Lever Brothers, the Swift Canadian Company, and Canada Packers. President Nairn of the first-named company decided that certain of his employees should have a greater knowledge of chemistry and physics as used in that industry; that they should know something of psychology in order to understand the people among whom they work; and that some of them should obtain a speaking knowledge of the French language. He asked the General Managers of the other two firms to co-operate and the three of them shared the total expense of conducting the classes specially arranged for their employees.

For the first time there were graduates this year in the certificate course in Business—5 men and 1 woman. This is a course which may develop rapidly when the war has ended. All the instruction is given in the evenings during the winter and is so arranged that the work for the certificate can usually be completed in three sessions. Those who obtained this certificate are particularly well qualified for business positions.

It became necessary to close the two-year diploma course in Aerial Navigation for the duration of the present war. The reason is that young men who enrol in this course are "air-minded" and enlist in the R.C.A.F. just as soon as they possibly can. A class which commenced with an enrolment of 28 closed with a graduation list of 8—and there were no failures! In one year 20 of these students enlisted or undertook to serve their country as Assistant Ground Instructors in Flying Schools. After the war, there will be a great demand, it seems certain, for instruction in Aerial Navigation.

To see the newspaper cuttings which come twice a week to this office would convince anyone that the University is receiving a tremendous amount of favourable publicity. From September to April news stories are sent out almost every day to all the daily newspapers in Canada and to the Canadian Press as well as to several of the larger weekly newspapers. By the use of air mail it is possible

to have these stories reach all dailies at almost the same time. The best proof that Editors like to receive these items of news is to be seen in the fact that stories are almost always used by all who receive them. From May to the end of August there is not so much available news but, even in those months, the University receives a reasonable amount of publicity. It is easy to publicize an institution such as this in which something is happening all the time, new developments are taking place, and new enterprises are being undertaken.

W. J. Dunlop

REPORT OF THE LIBRARIAN

The number of volumes added to the Library during the year has been 9,902, and the number of pamphlets 2,056, making the total number of accessioned volumes in the Library 404,081, and the total number of pamphlets 147,247—or a grand total of 551,328 items.

The following are the statistics of the use of the Library by undergraduates in comparison with previous years:

	1921-2	*1926-7*	*1938-9*	*1940-1*	*1941-2*
Reading-room books	41,928	106,485	195,869	167,145	157,492
Over-night books	18,998	39,779	102,233	86,273	78,330
Week books	4,782	13,104	21,247	20,043	17,995
Totals	65,708	159,368	319,349	273,461	253,817

The following is a statement showing the total circulation in the Library during recent years:

	1925-6	*1936-7*	*1938-9*	*1940-1*	*1941-2*
To undergraduates	159,278	341,086	319,349	273,461	253,817
To professors and graduates	20,000	39,437	41,439	42,359	42,286
Totals	179,278	380,523	360,788	315,820	296,103

These figures are exclusive of reference books, of which over 21,000 have been replaced on the shelves by the library assistants in the main library during the past year; and they take no account of the very considerable circulation of books in many of the departmental libraries.

The decline in the circulation of books among undergraduates, which has been approximately 7 per cent of last year's total, is no doubt due primarily to war-time conditions in the University. There has been a further increase in the number of interlibrary loans, the Library having handled this year 1,160, as against 1,060 last year. Of these 716 were books lent, and 444 books borrowed. This increase has taken place despite the growing difficulty of borrowing books from libraries in the United States, partly caused by restrictions at the border.

During the year the binding and mending department has prepared for binding 3,031 volumes, mended 1,381 volumes, and placed in pamphlet binders or boards 1,531 volumes. During the year there were filed in the depository set of the Library of Congress cards a total of 98,029 cards.

W. S. Wallace

REPORT OF THE DIRECTOR OF THE DAVID DUNLAP OBSERVATORY

Observing conditions during the year have been somewhat below average. The large telescope was used for 829 hours and in this time 1,040 plates were obtained—979 spectra and 61 direct photographs of clusters. The seven-year average number of clear working hours per year has been 1,203. It can thus be seen that during the past year more plates were obtained in a given time than formerly. This improvement has been effected since the surface of the large mirror was aluminized. During the past year the large vacuum tank for aluminizing the mirror was completed and the process successfully carried out in

November, 1941. The exposure time necessary to obtain satisfactory density on the spectra has been cut in half by the aluminum coating. It is planned to have the lens system of the spectrograph coated with the newly discovered non-reflecting film of fluoride which will effect a still further improvement of probably 25 or 30 per cent.

Owing to the curtailment of the staff and the difficulty of obtaining material, it has been impossible to undertake the construction of needed apparatus. This will have to wait for the time being.

There are now 4,276 volumes in the library of the David Dunlap Observatory. Of this number 1,796 are on loan from the Royal Astronomical Society of Canada and 383 from the Dominion Meteorological Service. The accessions during the year are 79 and are as follows: transferred from the University office, 4; gifts, 40; purchase, 10; exchange, 5; on loan from the Royal Astronomical Society of Canada, 16; on loan from the Dominion Meteorological Service, 4.

During the year 1,978 visitors were shown through the Observatory or took advantage of the open night on Saturdays to view the sky through the telescope.

R. K. Young

REPORT OF THE DIRECTOR OF THE ROYAL ONTARIO MUSEUM OF ARCHAEOLOGY

Another year of war has passed, and still the Museum collections continue to grow, thanks to the generosity of the public. A large number of objects, of interest in the different departments of the Museum, have been presented by 56 people.

The Department of Costume and Textiles has been very fortunate. The most outstanding gift of the year is Miss Amice Calverley's collection of Roumanian peasant work. There are 284 pieces, and the collection is particularly interesting for the light it throws on European peasant handicrafts. Apart from this single acquisition, 192 articles were given by 16 donors, including a number of dresses of different periods in extremely good condition. Mrs. C. S. MacCallum gave us a particularly charming group of the year 1878, comprising a bridal gown, a bridesmaid's dress, and the bride's going-away dress; a wedding dress, of about 1800, came to us from the estate of Miss E. L. Mason.

The Department of Ethnology has continued to receive numerous gifts, particularly of American Indian material.

Sir Percival David, before he went to the East last autumn, deposited in the Museum, for an indefinite period, a small but very valuable collection of twelfth-century Chinese porcelains. These had been shown at the Golden Gate Exhibition, and later at the Fogg Museum of Art. The East Asiatic Section is delighted to exhibit them. Eleven interesting pieces of Chinese porcelain and two Japanese pieces were presented by Mrs. Burnside. Mrs. E. W. Wallace gave us a Tibetan painting.

We acquired a few good pieces of glass; some of these were the gifts of individuals, others were presented by the Members. An outstanding collection of glass, porcelain, silver, and furniture was given us by Mrs. J. S. Burnside. Mrs. James Playfair of Midland gave us a remarkably fine pair of French carved ivory chairs.

In January the Museum participated in an exhibition of sculpture at the Art Gallery, which achieved some little success.

Miss Sylvia Hahn has almost completed two murals depicting armour as used in the tournament; these have been mounted on the west walls of the armour gallery, opposite the two which Miss Hahn executed last year. Their teaching value is great.

In conjunction with the Jesuit Order, the Museum has undertaken the excavation of old Fort Ste. Marie, which was built in 1639 as the central fortified residence for workers in the Jesuit missions in Huronia. Under pressure of the

Iroquois the fort was burnt and abandoned by the French in 1649. As the oldest European structure in Ontario, the importance of Fort Ste. Marie is obvious. The Museum provided a scientific party of four, under Mr. K. E. Kidd, Assistant Keeper of the Ethnological Collections, who worked on the excavations for two months and a half during June, July, and August, 1941. They succeeded in uncovering about a third of the original fort, recovering contemporary trade goods and Indian material which throws light on archaeological problems of that period, and were also able to trace the outline of buildings which had completely disappeared except for the stains of decayed wood. The work of Mr. Kidd and his colleagues has been greatly appreciated by officials at the Martyrs' Shrine, and his preliminary account in the *Canadian Historical Review* has attracted considerable attention.

An Outline Guide of the Central American Collections, the work of Mr. Kidd, has been prepared in multigraph form, and it is hoped that other guides can be brought out in the future.

Considerable internal reorganization has taken place during the past year. The Board of Trustees has appointed Professor McIlwraith Associate Director of the Royal Ontario Museum of Archaeology. The title of "Assistant Keeper of Later European Wood, Metal and Ceramics" was granted Mr. Spendlove by the Board, who also appointed Miss Needler Museum Assistant in Egyptology, and Miss Maw Museum Assistant in European Prints.

C. T. Currelly

REPORT OF THE DIRECTOR OF THE ROYAL ONTARIO MUSEUM OF GEOLOGY

The work of the Museum of Geology was expanded somewhat over that of the previous year because a Museum Assistant was available and Dr. W. W. Moorhouse, Lecturer in Geology in the University, gave valuable gratuitous help. This aid has been very much appreciated.

Owing to the great interest now manifested in strategic minerals, a specially prepared exhibit of a number of these substances has been set up in the gallery for the benefit of those who wish to familiarize themselves with them.

Lectures on geology, illustrated by the collections in the galleries, to Normal School students last autumn, and a public lecture in a Saturday afternoon series, were given by the Director.

Specimens were added to the collections as follows:

Donations

Gold ore from Upper Canada mine. From Mr. R. R. Brown.

Coal, gold, and lead ores from the Cassiar District, B.C., and a set of California gold scales used by the gold miners in the Cassiar District in 1870. From Mr. A. L. Reeve.

Concretion of pyrite from Port Arthur. From Mr. L. T. Slichter.

Polished specimens of a concretion from the Sudbury basin and unusual specimens of nickel-copper ore and rocks from Sudbury. From Dr. J. Satterly of the Ontario Department of Mines.

A large collection of calcareous concretions from clay on the shore of Gull Lake, Haliburton County. From Miss M. Rowe.

A collection of iron and manganese ores and associated rocks from Steeprock Lake. From Dr. M. W. Bartley.

Brucitic limestone (a new source of magnesium) from Wakefield, Quebec, and Rutherglen, Ontario. From Mr. M. F. Goudge, Canada Department of Mines.

Gold ores from various mines in Canada and the western United States. From Mr. W. H. White.

Purchases

Gold ore from the Lake Shore Mine, Kirkland Lake, Ontario.

Collections

A large specimen of banded iron formation from the Timagami area, Ontario, showing a number of faults. From Dr. W. W. Moorhouse.

E. S. Moore

REPORT OF THE DIRECTOR OF THE ROYAL ONTARIO MUSEUM OF MINERALOGY

In addition to the ordinary routine of museum work, the Director has devoted much time to the collecting of unusual minerals wanted for war work, and thereby has been able to furnish all the material needed for two important research projects in England.

A special exhibit to illustrate the *Prospectors' Guide for Strategic Minerals in Canada* was installed by the Assistant Director in the hope that it might promote interest in the discovery of much needed strategic minerals.

As in recent years, an opportunity was offered 20 pupils from collegiate institutes and technical schools in Toronto to come for an hour a week for ten weeks to take work in the sight identification of minerals. This work was in charge of the Museum Assistant, Mrs. R. B. Burgess.

Much time and thought have been given to possible war hazards in connection with our collections, and a policy has been adopted for use in case of emergency. It was felt by the Director that in the national interest the collections should be available for study and research even though it should seem best to close the galleries for such time as may be deemed necessary for protective covering, which has been secured, to be kept in the cases. This policy, which exposes the collection to possible damage, has been chosen, rather than incur the inevitable damage and loss that would be involved in any plan requiring the moving or packing of the collection.

Important purchases are as follows:

Spectacular crystals of nepheline from Bancroft, Ontario. From L. Moyd.

Beryl and cassiterite from Manitoba. From K. E. Miller.

Five specimens of gold and telluride from Ontario and Quebec. From the Ontario Prospectors and Developers Association.

Important exchanges were as follows:

Minerals from Michigan and Ohio. From C. S. Bullen, Esq.

Diaboleite from Arizona. From Schortmann's Minerals.

Fine display specimens from various localities. From Ward's Natural Science Establishment.

Among the outstanding donations are the following:

A large quantity of pure chalcopyrite to be used in our exchanges. From Noranda Mines, Limited.

A suite of fine specimens from historic localities. From Frank Ebbutt, Esq.

Silver from Great Bear Lake. From Eldorado Mine.

Suite of cinnabar ores and associated minerals from Pinchi Lake, B.C. From Consolidated Mining and Smelting Company.

Nepheline crystals from Bancroft, Ontario. From Thayer Lindsley, Esq.

Minerals from Baffin Land. From D. A. Nichol, Esq.

A. L. Parsons

REPORT OF THE ASSISTANT DIRECTOR OF THE ROYAL ONTARIO MUSEUM OF PALAEONTOLOGY (INVERTEBRATE SECTION)

The activities of the Museum and the ordinary routine work have gone on remarkably well this year in spite of the reduced staff and also the fact that all the present members have been engaged to some degree in patriotic work.

War economy has led us to look with more favour than usual upon the medium of exchange as a means of securing new palaeontological material since our appropriation has not permitted the purchase of specimens. We have been able to offer to other universities and museums material from our collections of local fossils, a practice which seems highly commendable even in more auspicious times.

This brief report deals mainly with the year's acquisitions which have added materially to the study collections and exhibits.

By exchange the following have been acquired:

Lower Cambrian fossils from the Kinzers formation, Pennsylvania, for Ordovician fossils from Ontario. From Ward's Natural Science Establishment.

Eight fossil pearls from the Cretaceous of Kansas for Palaeozoic fossils from Ontario. From Fort Hays Kansas State College.

Palaeozoic and Mesozoic fossils for Devonian *Stromatoporoidea*. From United States National Museum.

Palaeozoic *Bryozoa* for Silurian *Stromatoporoidea*. From United States National Museum.

Cambrian fossils from Pennsylvania for Ordovician fossils from Ontario. From Princeton University.

By donation the following collections have been gratefully received:

Devonian *Bryozoa* from New Mexico. From University of Chicago.

Ordovician *Bryozoa* from Percé, Quebec. From Dr. C. H. Kindle, City College of New York.

Scolecodonts from Credit River, Ontario. From Dr. E. R. Eller, Carnegie Museum, Pittsburg.

The most spectacular of the above-mentioned acquisitions from the point of view of popular interest is the collection of fossil pearls. An attractive exhibit has been arranged in the gallery showing these rare fossils and explaining their special significance.

In conclusion it might be pointed out that during the year, many necessary measures have been taken to safeguard the Museum's irreplaceable specimens in the event of air raids.

MADELEINE A. FRITZ

REPORT OF THE ASSISTANT DIRECTOR OF THE ROYAL ONTARIO MUSEUM OF PALAEONTOLOGY (VERTEBRATE SECTION)

The mounting of large vertebrate fossil specimens for exhibition requires the use of materials that are needed for the war effort. For this reason, as well as for economy, it has been decided to suspend temporarily the installation of any large new exhibits of vertebrate fossils. However, the preparation of specimens so that they may be readily mounted at some future time is going ahead, and considerable progress has been made. Much of the work on the giant *Diplodocus* skeleton from Utah has been completed. The skeleton of the rhinoceros *Teleoceras* secured from Mr. G. F. Sternberg has been almost completely prepared, and is in excellent condition. The few missing bones will be replaced by Mr. Sternberg from his own collection. At the time of the original purchase Mr. Sternberg could not send the skull, which was in the possession of another collector. Subsequently it was obtained for the Royal Ontario Museum, greatly increasing the value of the specimen. Other material under preparation includes dinosaur specimens from the Red Deer River valley, Alberta, obtained by earlier expeditions from the Museum. It is hoped that, with the restoration of normal conditions, many important additions to the exhibition series can be made in a relatively short time.

Some small additions to the exhibits have been made in the past year, notably a case illustrating the remains of Mastodons and Mammoths, with special reference to the numerous finds in Ontario.

Mr. L. Sternberg, chief vertebrate preparator, has developed much skill in the reproduction of fossil skulls by using flexible rubber moulds. During the past year he prepared in this way plaster casts of the skulls of the dinosaurs *Edmontonia* and *Parasaurolophus*. Making the latter was a unique operation in that the mould was prepared on the specimen in place on the exhibition mount, thus avoiding the necessity of dismantling the exhibit. At the same time the writer prepared a painted life restoration of *Parasaurolophus* to form part of the exhibit, illustrating the remarkable form, and the probable habits, of this dinosaur. The opportunity was also taken of studying the anatomy of the skull, with the result that a new interpretation of the bone structure was made necessary.

The writer used the vertebrate specimens in the Museum collections in his University classes in General Palaeontology and Vertebrate Palaeontology. No important investigations were completed during the year, as the writer's time was greatly occupied with military work.

The only important addition to the vertebrate collection is the previously mentioned skull of *Teleoceras fossiger*, a Pliocene rhinoceros from Kansas, obtained by purchase from Mr. G. F. Sternberg, Hayes, Kansas.

L. S. Russell

REPORT OF THE DIRECTOR OF THE ROYAL ONTARIO MUSEUM OF ZOOLOGY

The trend towards greater emphasis on educational activities has continued during the present year. Although many kinds of zoological knowledge are of immense economic importance their application usually depends on educating large numbers of people. For instance, new methods of controlling clothes moths or grasshoppers depend on the instruction of hundreds of thousands or perhaps millions of individuals. The increased demands for information about animal life is an indication of the growing appreciation of the service which the Museum of Zoology can render.

Specimens for exhibition and research are fundamental to the Museum's work. During the past year the following numbers of specimens have been added to the collections in the various divisions: Mammals, 781; birds, 785; birds' nests, 42; sets of eggs, 200; reptiles, 92; amphibians, 29; fish, 585; insects, 2,279; molluscs, 872; other invertebrates, 829. Additions to the library were 64 bound books and 1,710 unbound publications.

Mounted mammals added to the exhibition series included springer spaniel, airedale terrier, and Brussels Griffon dogs, and a chimpanzee. The collection of enlarged models of insects has been increased by the addition of a model of the carpet beetle. A number of temporary exhibits were arranged during the year.

The faunal survey programme of the Museum was discontinued temporarily. Only incidental field work was carried on.

The other features of the Museum's activities were continued. These include preparation, cataloguing, and care of research collections, educational activities of many kinds, identification service, loan of research material to other institutions, and assistance to students, naturalists, and others engaged in zoological or natural history research.

J. R. Dymond

REPORT ON THE EDUCATIONAL WORK OF THE ROYAL ONTARIO MUSEUM

Miss Ruth M. Home reports as follows regarding the educational work carried on under her supervision in the Division of Public Instruction during the year ending June 30, 1942:

Out of Town Groups

On account of the war, there has been a decrease in the work of the Division from the provincial aspect, due largely to gas rationing, rubber shortage, and restriction of railway traffic to purely essential business. Attendance of groups from out of town consequently has fallen from 4,341 last year to 1,802 this year.

Valuable service has been rendered schools throughout the province, however, through correspondence, answering questions, sending out information regarding material suitable for teaching purposes in the Museum, and publications and photographs.

In spite of transportation difficulties, classes from schools in Agincourt, Barrie, Brantford, Hamilton, London, Long Branch, Orangeville, Waterford, and Whitby have been arranged throughout the year.

For the third consecutive year a group of some 21 students from the New York State School of Ceramics, Alfred, N.Y., accompanied by three professors, spent five days in intensive study of the Museum collections.

School Classes from Toronto and Vicinity

Attendance of children from the public, private, and high schools of the city and suburbs totalled 11,502. For this group the usual gallery tours have been offered, also demonstrations in the use of museum material for teachers, and moving pictures. Material suitable for use with Grades 4, 5, 6, and 11 was demonstrated to teachers of public schools and collegiate institutes; three illustrated lectures were arranged for Grade 11 and were enthusiastically received, thus creating an important precedent for the future.

During Easter week an exhibition was held comprising projects made by students in some of the city schools and in Brantford Collegiate Institute, following visits to the Museum, to illustrate the use of museum material in the class room.

Moving Pictures

Special moving picture programmes arranged for the Christmas and Easter holidays attracted an attendance of 6,192 children.

The policy adopted last year whereby moving pictures relating to museum exhibits are shown to classes having previously studied the collections was continued with marked success.

Miscellaneous Groups

Gallery talks and tours have been arranged upon request for convention visitors and organized groups. Among these may be mentioned the National Industrial Advertisers; the International Association of Milk Dealers; University Arts Women's Club; the North Toronto Deanery; Toronto Travel Club; Royal Society of Canada; Canadian Historical Association; Twenty Club; Zonta International; Toronto Central Dental Association.

A special programme of moving pictures and slides was arranged for the benefit of the Home and School Association and the Imperial Order of the Daughters of the Empire to acquaint them with the unusual facilities available in the Museum for work in visual education.

Children's Room

Work with children on Saturday mornings during the school year has continued in the Children's Room. This room is open to boys and girls who have shown a special interest in the Museum. By means of supervised drawing,

modelling, and through the making of dioramas; they have become intimately acquainted with material in the galleries.

Saturday Afternoon Gallery Talks

During the winter months a series of gallery talks for adults was arranged to popularize the material in the Museum. The average attendance was 65.

Publications

The valuable connection made in former years with *The School* magazine was continued, practically every issue containing some article contributed by a member of the Division of Public Instruction.

Public School Classes—Miss L. J. Payne

Miss Lilian J. Payne, teacher under the Board of Education at the Museum, reports having lectured to 694 classes comprising 26,936 children from the Toronto schools.

Art Classes

A total of 3,728 visits were paid by students from the Ontario College of Art and the Technical Schools of the city who came to sketch in the galleries.

University Students

Undergraduate and graduate students attend classes in the Museum conducted by members of the University staff. Visits under this head totalled 9,292 for the year.

The Theatre and Lecture Room

Use of the Theatre is restricted mainly to groups connected with the University and Museum.

Illustrated lectures were given under the auspices of the Toronto Branch of the Engineering Institute; the Academy of Medicine; and the Free French Society of Toronto.

Other groups making use of the Theatre and Lecture Room for meetings of various kinds were as follows: Auxiliary Teachers; New Education Fellowship; Home and School Association; Entomological Society of Ontario; Federation of Ontario Naturalists; the Toronto Field Naturalists; the Junior Field Naturalists; the Toronto Aquarium Society.

During Easter week, meetings were held in the Museum by the following sections of the Ontario Educational Association: Health; Headmasters; Speech Arts; English and History; Music.

The Annual Tropical Fish Show was held under the auspices of the Toronto Aquarium Society in the Rotunda of the Museum of Zoology from March 29 to April 12.

Attendance

Attendance for the year totalled 291,872, an increase of 44,089 over last year.

News Release

The Museum's undertaking to release news to the Ontario press once each month has met with a satisfactory reception. Since the inauguration of this service (March, 1941) 16 clip-sheets have been issued and at least 80 Ontario papers have used them, many of them regularly. Several articles have been copied in the press throughout Canada. Editorial comment shows that the brief, popular articles on seasonal and current matters have had news interest. Besides attempting to present timely, informative news, the Museum endeavours to fulfil its duty as an educational and scientific institution belonging to all the people of the province.

HELEN REYNAR

REPORT OF THE ACTING DIRECTOR OF THE INSTITUTE OF CHILD STUDY

During the past year public interest in the care of pre-school children has grown enormously owing to the emphasis thrown upon this topic by war-time conditions. The increasing part played by women in industry has brought to the fore the need for nursery schools for the children of mothers employed in war industries. The Institute of Child Study has been able to make important contributions to this development, both in Great Britain and in Canada, mainly through the training of personnel.

The normal programme of instruction has been continued, as well as special courses and surveys to meet the emergency situation. The Institute operates two divisions, nursery school and parent education, and offers courses for nursery school supervisors, primary specialists, parent education group leaders, and parents. Also, courses are given to students enrolled in the School of Social Work, the School of Nursing, in Occupational Therapy, and the Department of Psychiatry. Since 1939 the Institute has participated in both theoretical and practical training of the above-mentioned primary specialists, from the Toronto Normal School.

A special emergency training course was arranged for a large group of volunteer workers from the Canadian Women's Voluntary Services and a more intensive course was given to prepare personnel for pre-school day-care centres.

During the year the Director, Dr. W. E. Blatz, was invited to visit Great Britain to survey the need for trained people to staff the nurseries being set up all over the country. He was a member of a small party of Canadians headed by Dr. C. M. Hincks of the National Committee for Mental Hygiene. As a result of that visit the British Ministry of Health and the Board of Education requested Dr. Blatz to establish under their sponsorship a training centre for nursery school staff in Great Britain. For this purpose Dr. Blatz returned to England in May, accompanied by Miss D. A. Millichamp, the Assistant Director, Miss M. I. Fletcher, Principal of the Nursery School, and Miss A. Harris, Miss M. McFarland, and Miss M. Wright, graduates of the Institute. This project is partly financed by the British Children's War Service Fund, 111 St. George Street, Toronto. Leave of absence until October has been granted to the three members of the Institute staff, by which time the training centre in Great Britain will have been firmly established.

In Canada the Institute has been giving leadership in the movement for setting up day-care centres for the children of mothers in war industries. Its accumulated knowledge and experience of pre-school education have been made available to government agencies and the Institute has accepted the responsibility for training the necessary personnel and for providing full information on standards of equipment, staff, and programme. This extra work has been made possible by a generous grant from the Canadian Red Cross Society. The support of the Red Cross has been greatly appreciated, as it would have been impossible to offer additional emergency training courses without it.

The Institute is a centre for service to various organizations interested in child study. Staff members have acted as consultants, as well as speakers, stimulating interest and spreading information about pre-school education. Another form of service to the community is the publication, five times yearly, of the *Parent Education Bulletin*, and of pamphlets on child guidance.

The staff of the Institute have co-operated intimately with the University Committee on British Overseas Children, Dr. W. E. Blatz as consultant and Dr. K. S. Bernhardt and Miss Helena Shepherd as members of the Committee. The Institute has provided an office for the Committee since its formation in 1940.

K. S. Bernhardt

REPORT OF THE DIRECTOR OF THE CONNAUGHT LABORATORIES

In this, the twenty-ninth annual report of the Connaught Laboratories, the work of the Laboratories during the second year of the present war is briefly presented.

The work has been primarily directed to the carrying forward of research and the preparation of products related to the war. The needs of health departments, as well as the requirements of physicians throughout Canada, have been constantly kept in mind, as well as the necessity of building adequate reserves of essential products in case of emergency need in Canada or in Great Britain.

During the past twelve months the work of each section of the Laboratories has continued to expand so that new peaks have been reached in the number and volume of products distributed and in the number of personnel employed. The Laboratories have continued to serve the armed forces of Canada and to collaborate with government departments in problems related to the protection of the health of troops. An extensive programme of research relating to specific measures for the control of communicable diseases, the study of nutritional deficiency diseases, investigations in the rapidly expanding field of chemotherapy, and problems on industrial and environmental hygiene has been carried forward, though with some curtailment owing to the enlistment of members in the armed forces and the necessity that more time be devoted to the preparation of products.

There were fifty research studies in progress during this session and forty scientific papers were published.

Bacteriology and Immunology

Under the direction of Dr. Donald T. Fraser, Associate Director, work has been continued in the various fields of bacteriology and immunology.

Of much interest is the work being carried forward in the study of influenza viruses under the direction of Dr. Ronald Hare. This work was commenced by him in these laboratories six years ago. An effective team of workers with adequate facilities is now functioning under Dr. Hare's direction. Study of material collected from cases of influenza, from various parts of Canada, for the purpose of determining the type of influenza virus present can be immediately undertaken if influenza in epidemic form should occur at any time. Efforts to obtain vaccine for the prevention of influenza are also being carried forward. Dr. Hare has been assisted by Dr. Laurella McClelland and has had the co-operation of Majors Hurst Brown and John Hamilton in field studies. With the assistance of Reba E. Willitts, and latterly of Miss Ina M. Clarke, Dr. Hare completed his studies on wound infection, which were commenced at the outbreak of the war and have been carried forward under a grant from the National Research Council.

Important also have been the studies of Dr. Frieda Fraser in the field of haemolytic streptococci. Investigation of the occurrence of strains among members of the Royal Canadian Air Force was continued and interesting findings were recorded.

Dr. Nelles Silverthorne has continued his studies of epidemic meningitis, investigating cases of this disease as they occurred in the Hospital for Sick Children, Toronto, and also in the city population. Further progress has been made by him in the study of influenzal meningitis and observations on the treatment of cases suffering from this infection have been made using several serums and also sulphonamide preparations. He has continued his studies of whooping cough, particularly as relating to the protective powers of the vaccine now employed.

In co-operation with the Division of Industrial Hygiene of the Ontario Department of Health, Dr. Leone Farrell investigated the possible value of staphylococcus toxoid in the prevention and treatment of staphylococcic infections in industry. Dr. Farrell has also advanced the knowledge of staphylococcus toxoid,

preparing with the assistance of Miss Hilda MacMorine a more effective toxoid. As dysentery (Shiga) antitoxin was not available in Canada, this serum has been prepared in adequate quantities, by Dr. Farrell, for the possible needs of the armed forces, with the assistance of Dr. R. C. French and Dr. E. G. Kerslake. To determine if a toxoid might be developed for the prevention of this very severe type of dysentery, Dr. Farrell has studied possible methods, with quite encouraging results. This study has been aided by a grant from the National Research Council.

One of the most important contributions to the war effort has been the preparation of large quantities of tetanus toxoid, which is used to produce immunity against tetanus (lock-jaw). During this year a combined preventive vaccine known as "TABT," representing the combination of typhoid para-typhoid vaccine with tetanus toxoid, was made available for the use of the armed forces in Canada. To provide the supplies of tetanus toxoid required, large quantities of tetanus toxin have been prepared under the direction of Dr. Helen Plummer and Dr. Edith Taylor. The preparation of tetanus toxoid has been under the immediate direction of Mr. M. D. Orr and has been conducted at the Farm Section where special facilities have been provided to permit of large-scale production.

Of great importance also has been the preparation of typhoid para-typhoid vaccine. This has been made under the direction of Dr. Donald T. Fraser. It is now combined with tetanus toxoid in the combined preventive previously referred to as "TABT." Dr. Plummer has conducted also studies of botulinus toxin and the toxins of other anaerobic gas-producing bacilli, including vibrion septique, *B. oedamatiens*, and *B. welchii*.

Chemistry in Relation to Hygiene

Dr. P. J. Moloney and his colleagues have continued to make important contributions, particularly in the preparation of improved alum-precipitated diphtheria toxoid and in the purification of tetanus toxoid. Dr. Edith Taylor has utilized the advances made by her in previous studies to prepare diphtheria toxin and tetanus toxin of much higher antigenic value. With Mr. George Kimm and Miss Joan Hennessy, Dr. Moloney has carried forward a series of studies, including the analysis of tetanus toxoid-antitoxin floccules, the preparation of a flocculating serum for tetanus toxoid and other fundamental investigations. Mr. M. D. Orr, Dr. Moloney's senior colleague, has, since the commencement of the war, had the responsibility for the preparation of the large quantities of tetanus toxoid required for use in the Canadian armed forces and has also given supervision to the entire work of the Farm Section.

Virus Studies

Under the direction of Dr. James Craigie, studies have been carried forward with typhus, poliomyelitis, equine encephalomyelitis, and the phage typing of *B. typhosum*. It is pleasing to report that Dr. Raymond C. Parker joined this section of the laboratories in November. He has rendered invaluable service in the studies of poliomyelitis and of typhus. The urgency of the work in typhus called for the temporary discontinuance of the work in equine encephalomyelitis which was being carried forward with Dr. N. E. Labzoffsky. Investigation of the virus of poliomyelitis has been continued, aided by a grant from the National Foundation for Infantile Paralysis, New York City. This work has been conducted with the assistance of Mr. J. W. Fisher. During the year much information has been gained regarding poliomyelitis virus as it occurs in the gastro-intestinal tract of man. This has required the use of a very large number of monkeys. One of the most important contributions has been the development of a method whereby the virus may be obtained from intestinal contents in such a condition that it may be safely injected intracerebrally into monkeys.

While relatively little time has been available for the further studies relating to the phage typing of *B. typhosum*, considerable progress has been made in improving and simplifying the typing schema. Increasing interest in this method in Canada and the United States has made continuation of the work, in its practical aspects, necessary, but the more important phase of the study in relation to virus variation and virus host-cell relationship has had to be abandoned.

Excellent progress has been made in the study of typhus fever rickettsiae and associated problems by Dr. Craigie and his associates. These studies have been aided by a grant from the National Research Council.

Physiological and Biochemical Studies

Important chemical work on the isolation of carbonic anhydrase, insulin, heparin, and the anti-diabetic principle of the pituitary gland has been continued by Dr. D. A. Scott. With the collaboration of Dr. A. Fisher, Dr. Scott developed a procedure for the isolation of crystalline products of carbonic anhydrase. Research on the large-scale crystallization of insulin by means of zinc has been carried forward by Dr. Fisher and Mr. R. G. Romans. Under the direction of Dr. Scott, Mr. C. L. Peterson has investigated the anti-diabetic principle of the pituitary gland. Mr. H. V. Bett has carried out research on the anti-anaemic factor, obtained from liver, along two main lines: chemical studies on the purification of the active substance, and biological investigations on methods of assay. A marked increase in the distribution of epinephrine made necessary a corresponding increase in production. Dr. G. A. McVicar has perfected improvements which result in the preparation of a purer product with greater economy. For the preparation of adrenal cortical extract he has developed new purification procedures which yield a solution much lighter in colour but which has undiminished potency in the treatment of Addison's disease. Operations of the section of the Laboratories devoted to the routine production of glandular products have been under the direction of Dr. McVicar during the past year. Valuable economies have been introduced and the whole work has been carried forward in a most satisfactory manner. Closely associated with these physiological and chemical studies in the Connaught Laboratories, under the direction of Dr. E. W. McHenry, are the studies in nutrition and physiological hygiene, conducted in the School of Hygiene by Dr. McHenry and Dr. D. Y. Solandt. In this way the programme of research is being effectively correlated.

Preparation of Dried Human Serum for the Armed Forces

The preparation of dried human serum for the Armed Forces, initiated by Dr. C. H. Best at the commencement of the war, has become a very large undertaking. In January, 1941, the work was formally transferred to the Connaught Laboratories and it is now conducted under the direction of Dr. A. Fisher, with the assistance of Dr. Jessie Ridout, who has been associated with the undertaking from its commencement. The Laboratories have had during the year, in the conduct of this work, the assistance and advice of Dr. C. H. Best, Dr. D. Y. Solandt, and Dr. D. E. Gemeroy, who conducted a study of serum typing. In this national effort the Canadian Red Cross Society is obtaining the donations of blood, the Department of Pensions and National Health supplies the funds to the Connaught Laboratories for the purchase of the necessary equipment and supplies and the payment of personnel, and the Connaught Laboratories provide the scientific and managerial direction, as well as the laboratory accommodation and services. A very substantial financial contribution is represented in the work and services contributed by the Laboratories.

During the month of May, 1942, the donations of blood and serum totalled 13,313. The personnel employed in the Laboratories in preparing the serum now numbers forty and approximately 5,000 square feet of laboratory space are required to accommodate the work. Preparation of the serum from the blood

as it is received is carried on in the University Section of the Laboratories. During the year the procedures related to the drying of the serum were transferred to the Farm Section, under the immediate supervision of Dr. A. F. Charles. Extensive alterations to the existing laboratories were required to accommodate the drying equipment. An efficient unit for the drying of serum, which is capable of processing each month the serum from 12,000 donors, is now functioning at the Farm Section. It must be remembered that much more is involved in the preparation of the serum than drying: the serum must first be separated from the original blood, every care being taken to prevent contamination, after which it must be tested for bacteriological sterility and freedom from infection, filtered through special filters, and again carefully tested.

The Connaught Laboratories have recently been asked by the Department of Pensions and National Health to take immediate steps to double, and possibly treble, the present capacity of the blood-drying facilities.

Chemotherapeutic Studies

During the year the resignation of Dr. R. J. Schnitzer, who initiated studies in this field, was regretfully received. Dr. Charles Siebenmann has carried on the synthesis of new drugs as well as biological and chemical work connected with the testing of these drugs for their chemotherapeutic activity. Compounds of considerable interest have been prepared and have been subjected to careful laboratory testing. One of these products has been found, on clinical trial, to be active in the treatment of gonorrhoea and is believed also to be of possible value in the treatment of epidemic meningitis. Further clinical trial is being made of a purified preparation of phenothiazene, which has been prepared in quantity by Dr. Siebenmann according to the methods introduced by Dr. Schnitzer. This product is of established value in the treatment of pin-worm and other nematode infestations in man.

Farm Section

In the face of many difficulties, the work of the Farm Section, under the direction of Mr. M. D. Orr, who is in charge during the absence of Dr. N. E. McKinnon, has been carried forward with much success. Extensive alterations to the laboratories have been required to accommodate the blood drying with its associated services and the enlarged typhus-fever investigations. Construction of a new animal section to meet the needs of typhus-fever research was also undertaken. Lunch-room and rest-room facilities have been provided to accommodate the greatly enlarged staff of women workers.

Owing to the sharply increased demand for products, research studies have been curtailed. Mr. Orr has been responsible for the preparation of all tetanus toxoid required for the armed forces and has also assumed major responsibilities in the typhus-fever studies. Dr. E. G. Kerslake has established the production of Brucella abortus vaccine, as well as providing veterinary supervision. Dr. J. M. Corkill has prepared large quantities of various antigens required in the productions of the serums used in the prevention and treatment of scarlet fever and epidemic meningitis, and has assumed also the responsibility for the production of staphylococcus toxoid. Dr. R. C. French has made substantial contributions to the knowledge of antitoxin concentration and has directed the production of the large quantities of antitoxins required. Dr. Arthur Charles, in addition to the responsibilities in the preparation of heparin and of research studies relating to this important product, has been giving valued assistance in directing the blood-drying work at the Farm Section. Dr. V. E. Engelbert has made valuable studies relating to the breeding and raising of small laboratory animals.

Library

Miss Olga E. Somerville, the librarian, has again reported further progress in the development of the library, which now includes 4,274 bound volumes.

The library receives 99 current journals and provides a monthly index of articles in the many fields of interest to members in the Connaught Laboratories. A translation service is provided by Miss K. Pichler which, with the provision of micro-films, has added greatly to the extent of the library services. Volume XIII of the *Studies* of the Connaught Laboratories and School of Hygiene, published during the year, contained forty articles by members of the staff which appeared in scientific literature during 1941.

Western Division

The Western Division of the Connaught Laboratories, now completing its seventh year, has recorded further progress in the research studies which are being conducted under the direction of Dr. C. E. Dolman. The wisdom of establishing the Western Division is being continuously demonstrated by the growing interest in its work and in the work of the Connaught Laboratories. It is significant that within five years of establishing the Western Division approval was given by the University of British Columbia to the plan for an Institute of Preventive Medicine in which the Connaught Laboratories would have accommodation. Dr. L. A. Ranta, assisting Dr. Dolman, has carried forward important studies in connection with cholera and staphylococcic infection. Subsidiary activities included continuance of the Salmonella typing centre for Canada and the furnishing of direction and assistance in several investigations carried out by Dr. Dolman's colleagues and students in affiliated institutions. Among the latter may be mentioned studies involving *Pasturella pseudotuberculosis*, *Leptospira icterohaemorrhagiae*, *Brucella abortus*, *Clostridium welchii* and *septique*, and the marine plankton, *Gonyaulax catanella*, the latter being the cause of poisoning among persons eating clams from certain areas on the British Columbia coast.

Distribution of Products

The number and volume of biological products prepared and supplied by the Connaught Laboratories have reached the highest point in the history of the Laboratories. To the list of products which last year numbered thirty-four there have been added dysentery serum (Shiga), cholera vaccine, and the several gas-gangrene serums, making a total of forty. During the year there has been a 25 per cent increase in the total number of packages of products distributed; the total number distributed was 1,337,058 packages. The total number of containers filled each day has averaged 10,000. This increase in the number and volume of products has occasioned an almost continuous personnel problem and has necessitated alterations and additions to the laboratory facilities, including the purchase of much new equipment. It is anticipated that increasing difficulties will be met in conducting the work of the Laboratories, particularly in the preparation of products. There have been further increases in prices of raw materials and supplies, and many materials are being obtained with difficulty. It is gratifying that the increased volume of products distributed has made it possible to effect further reductions in the price of insulin, tetanus antitoxin, smallpox vaccine, and pertussis vaccine. Appreciation of these reductions in price has been conveyed to the Laboratories by the provincial Medical Officers of Health. This action will, in their opinion, result in a further extension of the public services which provincial Departments of Health are rendering.

Staff Changes

During the year almost half of the technical and sub-staff have been replaced. A large number have enlisted or have been called for service. In August, 1939, the staff totalled 252 and in March, 1942, 364. Three of our most senior members, namely Dr. N. E. McKinnon, Dr. M. H. Brown, and Dr. D. L. MacLean, are serving with the armed forces and Dr. Hugh Barrett is attached for special

service. In addition to the important changes in the administrative staff of the Laboratories recorded in the report of last year, Dr. E. W. McHenry has been appointed Assistant Director, assuming in the Laboratories the responsibilities of Dr. Charles H. Best. It is pleasing that Dr. Best is continuing his relationship with the Connaught Laboratories as an Honorary Consultant. During the year, Dr. Raymond C. Parker, well known in the field of virus studies, was appointed to the staff. Dr. Parker was for nine years a member of the staff of the Rockefeller Institute for Medical Research. Mr. W. P. Gerald, B. Com., who was Assistant Accountant, has been appointed Secretary of the Laboratories and Mr. E. M. Harbour, C.A., has been appointed Accountant.

I wish to express, on behalf of my colleagues and myself, appreciation of the support given by the President of the University and of the co-operation accorded by the members of the Connaught Laboratories Committee of the Board of Governors. I should like to express particular thanks to the Chairman of the Committee, Mr. Balmer Neilly, for his advice and counsel.

R. D. Defries

REPORT OF THE ACTING WARDEN OF HART HOUSE

The War

Hart House felt the effect of the war more forcibly this year than in the preceding two. The Warden, Mr. J. B. Bickersteth, was still at Canadian Corps Headquarters in England, acting as personal adviser to Lieutenant-General McNaughton on educational matters for Canadian troops. On June 1, 1942, he was appointed Director of Army Education for all British troops (other than those of the Dominions) in the British Isles. The Secretary, Mr. H. J. Sissons, left in June, 1941, to take a position with the Priorities Branch of the Department of Munitions and Supply and was replaced by Mr. R. W. Thompson. Mr. Thompson resigned in April and has taken a position in Ottawa with the Research Department of the Foreign Exchange Control Board. Several members of Hart House committees withdrew during the year to join the armed forces or to enter war work and this, in addition to the intensive military training scheme for the undergraduates, made the organization of committee work a problem. The House was filled with men in uniform throughout the year. The Orderly Room of the University of Toronto C.O.T.C. Training Centre Battalion continued to be in the reading room, and other rooms in the House were used for lectures, drill, and quartermaster stores. A table in the graduate dining-room was reserved daily at lunch for officers of the Canadian Officers' Training Corps, and all branches of the armed forces used the House. Several hundred men of the Royal Canadian Air Force, taking a course in Radio Mechanics at the University, were lodged in University residences, took their meals in the Great Hall, and used the House for recreational purposes. Smaller groups, including a Navy Technical class, men of the Royal Canadian Dental Corps, sub-lieutenants of the Royal Canadian Navy Volunteer Reserve, and students in Meteorology, all taking special courses at the University connected with the war, were permitted to use the House on payment of a nominal fee. There was also a temporary active service membership available to officers of the armed forces (including the Royal Norwegian Air Force) stationed in Toronto. An invitation was extended to men in uniform to visit the House on the monthly Visitors' Days and a number of tickets were issued for the series of Sunday Evening Concerts. While registration increased considerably in the Faculties of Medicine and Applied Science and Engineering, there was a corresponding decrease in the Arts Colleges with the result that the total male registration was slightly less than that of 1940-1. Sénior membership, excluding honorary and temporary memberships, reached almost the same figure as in the previous year and there was a noticeable increase in the special membership for the graduating year. The presence of the Royal Canadian Air Force led to a radical change in meal service in the Great Hall.

Cafeteria service had been introduced for the Air Force in the summer of 1941. When the main body of undergraduates returned in September it was obvious that, in view of the difficulty in procuring sufficient staff, it would be impossible to serve them at table, and it was decided after much deliberation that, with the exception of the High Table, cafeteria service should be put into effect for the students also. A one-priced meal was served to the undergraduates and the same menu to the Air Force. The Airmen and students took their meals at the same time and the fact that the system proved to be satisfactory to both groups was a tribute to the ingenuity of the Superintendent of the Great Hall and her staff. As in other years a large number of dances, dinners, and receptions were held by University organizations in Hart House, but those in charge were asked to keep the functions as informal as possible. Among the 120 students from all parts of the world, who attended the Warden's annual Christmas dinner, were 6 refugee students from Europe.

Art

The 1941-2 series of exhibitions in the art gallery opened in September with the work of Dr. A. Y. Jackson, one of Canada's leading artists, and there followed paintings of other distinguished Canadian artists and a number of amateur groups, including the exhibition by Undergraduate Members and the Senior Members' Show. In January photographs by the Camera Club were hung and although the members had not as much time to devote to this activity as in other years and the membership of the club was less, the work was of a high order. The Print Room sub-committee arranged an excellent schedule for the year. The reproductions shown were from the collection owned by the House, supplemented by loans from the Art Gallery of Toronto and from private collections. The exhibitions in the art gallery and the Print Room were reviewed from time to time by qualified speakers for the benefit of the members. Mr. Carl Schaefer, a former director of the Art Class, who had just returned from a year in the United States on a Guggenheim Fellowship, took charge of the class and the arts and crafts group again this year. Both undergraduates and senior members took his instruction and their work was shown in the art gallery in April. Three pictures were purchased during the year, one to be hung in the French-Canadian room, one the gift of the graduating year, and the third a large canvas by A. Y. Jackson.

Music

Sunday Evening Concerts this year were among the finest in the history of the House. The series opened with a Sonata Recital given by Kathleen Parlow, world-famous violinist, and Sir Ernest MacMillan. In December the Hart House Quartet, together with Robert Rogers (clarinetist) gave an all-Mozart programme commemorating the 150th anniversary of his death. The remaining concerts were given by other outstanding musicians, three promising young artists, and the final one in March by the Hart House Glee Club. This concert was the 160th and marked the end of twenty years of Sunday Evening Concerts in Hart House. The Glee Club suffered a reduction in membership this year but, under the inspired leadership of Dr. Charles Peaker, had a successful season. In addition to the Sunday Evening Concert they broadcast a programme of carols over a coast-to-coast network of the Canadian Broadcasting Corporation in December. Because the hour at which they were held conflicted with military training, Friday Afternoon Recitals were cancelled this year. Greater attention was therefore given to the Informal Recitals by undergraduate musicians, seven of which took place on certain Tuesdays from 1.30 to 2 P.M. in the east common-room. In spite of the many demands on their time the students were anxious that the usual series of Sunday Evening Songsters should be held, and four songsters, conducted by Mr. J. Campbell-McInnes as in many years past, were

well-attended. Midday Sing Songs, led by Mr. Ross Workman, were as popular as ever, and three undergraduates played for them on alternate days. The Music Committee extended an invitation to the members of the armed forces taking courses at the University to join in all these activities. Forty-seven members of the House were granted the use of the Steinway piano and the contents of the Music Library. On the last day of March the annual performance of the Bach St. Matthew Passion took place in Convocation Hall, and members of the Music Committee assisted as usual in the sale of student tickets and in ushering for the production. In January the Secretary of the Committee joined the Royal Canadian Navy Volunteer Reserve and another undergraduate member took over his duties.

Library

The library has never before been used as extensively as it was this year. During the term about 100 books were added and in the spring many old books weeded out. More trouble was experienced with losses during the winter than in the several years preceding, when they were at a minimum. As a consequence the library was closed for a week early in March. However, the spring checking revealed that most of the books had been returned. In the fall Dr. P. A. Child spoke at a library evening on "Soldiers' Tales of British Wars." This was the only library evening held this season. During the Christmas vacation a system of indirect lights was introduced into the library and greatly increased the intensity of the lighting in the room which for some years had been very unsatisfactory. In the summer and early fall the curator, Mr. R. A. J. Phillips, made a thorough check of all the library files, bringing them completely up to date. Owing to the lengthening of the term for medical students the library opened at the end of August and will remain open until the end of June. In the Map Room, which is used as a reading room, over 30 periodicals were available to the undergraduates.

Debates

Considerable discussion took place among the undergraduates and senior members in the fall regarding the resumption of Hart House debates. The matter was considered very thoroughly by the Debates Committee at their October meeting and it was decided that circumstances made it advisable to suspend them as in the preceding two years of war. In February the committee met to discuss the question of electing a committee for 1942-3 since the Chairman and one senior member had resigned and a third had been called to Washington for the duration of the war. These factors, together with the probability that the general situation would not be changed, persuaded the committee to recommend to the Board of Stewards that no Debates Committee be elected for 1942-3.

Graduate Activities and Revolver Club

In spite of the fact that a large number of senior members have gone on active service, the total membership figure has remained approximately the same as that of the previous year. This is partly explained by the fact that many of the additional staff, added to various departments of the University where special courses for the armed forces were being given, joined the House. The graduate dining-room provided an excellent opportunity for members to meet each other and, since its redecoration, the room has been filled to capacity practically every day for lunch. On October 21 "Grad Sports Night" was inaugurated and took place each succeeding Tuesday until April 7. In February a successful "Grad Club Night" was held. Hart House is continuing the membership of those senior members in good standing who have gone on active service, and there are approximately seventy-five names on this honorary list. The Revolver Club grew steadily in membership this year. There were three competitive shoots and at the annual meeting in May prizes were awarded for marksmanship.

Student Christian Movement

The Student Christian Movement in the University of Toronto had a particularly active year. Local units were organized in most of the faculties and colleges and were represented on the Central Committee. The main feature of the work of the local units was the formation of study groups and these dealt with countless subjects and problems. The Central Committee arranged the all-university activities such as the Wednesday Noon-hour Addresses, the 5 o'clock lectures on Contemporary Religious Thinkers, and four Theological College Union meetings. Holy Communion was celebrated on the third Sunday of each month in the Hart House Chapel and there were special Lenten services in Wycliffe College Chapel. On February 3 the World's Day of Prayer for Students was observed when Dr. Robert Mackie, General Secretary of the World's Student Christian Federation, spoke of the reality of fellowship of Christian students, which transcends the barriers of race, nation, and war. One week later nationals from nine different countries including England, New Zealand, China, and Germany met to discuss the task of the Federation. Those present were amazed at the amount of news which passes the frontiers of countries at war and were greatly impressed by the fortitude being shown by the members of the Movement who are carrying on valiantly in these countries. Among the special projects this year were co-operation in the "March of Dimes," when a substantial sum was raised for International Student Service, and the partial support of a refugee student at the University. Early in the New Year the Rev. Arnold Nash was appointed General Secretary of the Movement at the University and took over his duties on April 1. Mr. Nash served on the staff of the British S.C.M. for five years and has been teaching Christian ethics in several colleges in the United States during the last two years. Mr. John Coleman, who has been acting as Secretary for the past two years, will assist Mr. Nash.

Theatre

University dramatic groups had a successful season in spite of war conditions. St. Michael's College, Victoria College, and Trinity College produced plays and the Victoria College Music Club presented *The Pirates of Penzance.* The University Drama Festival took place again in February and the "Cody Award" was won by Trinity College. In addition to these, the annual revues such as the Victoria College "Bob," University College "Follies," "School Nite," and "Dentantics" were again produced this year. Throughout the season many plays and revues were presented by organizations outside the University and, through these, many thousands of dollars were raised in aid of various war charities.

Visitors

Among those who visited the House during the year were Will Ashton, Director of the National Art Gallery in New South Wales, Professor J. C. Drummond of the Ministry of Food, London, England, Sir Wilson Jameson and Dr. James M. Mackintosh of the Ministry of Health, Great Britain, the Rev. Nathaniel Micklem of London, England, Professor Reinhold Niebuhr of New York, Thomas Parran, Surgeon-General United States Public Health Service, Major-General G. R. Turner, Headquarters First Canadian Army, Professor F. Webster of the Home Office, London, England, Sir Norman Birkett, Royal Courts of Justice, London, England, and Judge F. W. Howay, President of the Royal Society of Canada.

Staff and Committees

The absence of the Warden has placed much additional responsibility on the executive staff and on the senior members of committees. The administration of the House, even in normal times, is a difficult task, and the last two years of

war have brought new problems. I am greatly indebted to my colleagues, Mr. W. R. Cowan (Acting Comptroller), Mr. E. A. Wilkinson (Assistant Secretary), Miss M. E. Ransom (Superintendent of the Great Hall), and indeed all members of the staff for their co-operation. And especially am I indebted to the Faculty and Graduate Members on the various committees for their devoted service, without which it would have been impossible to carry on. In spite of the heavy demands on their time by academic and military studies, the greater part of committee work was undertaken, as always, by the undergraduates themselves. In conclusion, Mr. President, may I thank you for your keen and sympathetic interest in the affairs of Hart House.

J. R. Gilley

REPORT OF THE DIRECTOR OF THE UNIVERSITY HEALTH SERVICE

Due largely to the excellent work of Major C. D. Gossage, who returned to the University from overseas in October, 1941, on three months' leave of absence, much has been accomplished by the Health Service this year.

An Advisory Committee from the Faculty of Medicine, with Professor Duncan Graham as Chairman, has been appointed. The advice of this Committee has been of the utmost value.

Four physicians have been engaged, with hours of attendance at the Health Service offices such that one physician is on duty constantly throughout the day. They have been assiduous in fulfilling their duties.

The offices of the Health Service have been removed from Hart House to more spacious quarters at 43 St. George Street. This provides a suite of three examiners' offices, a dressing room, Director's Office, and a well-equipped surgery. As these offices were not immediately available a temporary part-time staff of four physicians was appointed and 1,678 students of the first and second years examined by them at Hart House. A number of these were subsequently re-examined at 43 St. George Street. A total of 3,863 examinations were conducted at 43 St. George Street, as follows:

First and second year students	1,919
Senior year students	1,009
Total students examined	2,928
Students re-examined	935
Total student examinations	3,863

Of these, 79.8 per cent were found to be physically fit and able to engage in all types of physical activities; 18.6 per cent were found to be fit but because of some slight disability were subject to certain restrictions. Only 1.6 per cent were found to be physically unfit. A large proportion of these were placed in special classes for limited physical training.

Through the co-operation of the District Medical Officer, it became possible to utilize these examinations for the military requirements of the University C.O.T.C., thus avoiding unnecessary duplication at a time when professional services were at a premium.

Military forms were completed by the Health Service on 1,625 of the 2,928 students examined. Of these 70.6 per cent were found fit for any branch of the army; 18.9 per cent were found fit for restricted military service because of the presence of some disability; 10.5 per cent were found to be unfit for military service.

A survey of the male students of the University for pulmonary tuberculosis was initiated this year. Through the facilities provided by the Division of Tuberculosis Prevention, Ontario Department of Health, 2,060 students had chest X-rays. Fifteen cases of tuberculosis were found, of which 6 were shown

to be active cases requiring immediate hospitalization. The remaining 9 cases are under observation and to date have not shown evidence of activity. The percentage of tuberculosis found (0.72) is not unusual in this age group.

The facilities offered to the student for office consultation have been utilized to a considerable extent. There have been 428 office consultations and 189 injuries treated at 43 St. George Street during the year. Fourteen visits have been made by members of the staff to students sick in lodgings. Some supervision of quarantine within the University has been undertaken.

The satisfactory relations with the Athletic Association in regard to the Hart House surgery have been maintained. Mr. P. Leitch has been employed by the Athletic Association to assist Dr. Stuart Thompson in the surgery, replacing Mr. Thomas who now assists in the surgery at 43 St. George Street. Dr. Roy Thomas and Dr. Lewis have continued to see referred cases at the General Hospital.

The usual lectures to students on resuscitation and the lecture to the physicians in the D.P.H. course at the School of Hygiene were given by the Director.

The Health Service is again indebted to the Department of Pathological Chemistry for conducting the urinalysis in connection with the examination of students.

Considerable progress has been made in respect to plans for next year. The participation of the Federated Colleges in the University Health Service scheme has helped materially to this end.

The Health Service for men and the Health Service for Women have been amalgamated under the charge of the Director. A full-time Assistant Director for Women has been appointed in the person of Dr. Gwen Mulock, formerly assistant to the Medical Adviser for Women. Dr. J. A. McGeachy retained her part-time connection with the Department.

It has been found possible to establish infirmaries for both men and women, thus fulfilling a long-felt need in the University. Existing infirmaries within the Federated Colleges participate in the scheme.

Provision has also been made for a measure of assistance to students injured while engaged in athletic activities on the campus and requiring hospitalization.

In the realization of these projects, the Director wishes to pay tribute to the first Director of the Health Service, Dr. George D. Porter. It is fitting that a tablet commemorating his long years of faithful service should occupy an honoured position in the Health Service offices. Tribute should also be paid to Major C. D. Gossage, who so ably laid the ground work for much that has been accomplished. The Director is deeply grateful for the whole-hearted co-operation shown by all Departments of the University.

R. W. I. URQUHART

REPORT OF THE ACTING MEDICAL ADVISER FOR WOMEN

Dr. Jean Davey's appointment to the C.W.A.A.F. necessitated a reorganization of staff, and her retirement as Director of this department is greatly regretted. However, the work was carried on with the valuable assistance of Drs. Gwen Mulock and Frances Stewart. Dr. Stewart left this spring also to do service with the C.W.A.A.F.

The work of Mrs. Nora Pim as part-time clerical assistant to Miss Jackes proved most helpful. The work of the whole staff was carried out in a conscientious and co-operative manner which was most helpful and gratifying in a year as full of changes as this one was.

The total number of complete physical examinations was 816, of which 68 per cent were first-year and 32 per cent were upper-year women. The standard of health of the whole body of women students this year was high, making the numbers of consultations in this office smaller than usual (750). Of the 563

women for whom physical training was required, only 4, or 0.7 per cent, were found totally unfit, due, in two cases to rheumatic heart disease; in one case to deformity due to an old poliomyelitis; and in one case to a healed tuberculous hip. Examinations for the Canadian Women's Service Force, for sports, and for summer farm work were carried on as usual.

The incidence of infectious diseases through the year was low. There were 5 cases of chickenpox, 1 of diphtheria, 1 of german measles, 1 of scarlet fever, 2 of scabies, 1 of pulmonary tuberculosis, and 1 of tuberculous glands of the neck. The last mentioned is still undergoing treatment. The others all recovered without complications, except the student with scarlet fever who was prevented from resuming her year's work after February due to the slow healing of infected glands of the neck.

Defects brought to light by the routine examination were; 1 fibroadenoma of the breast, 1 pilonidal cyst, 4 moderately severe anaemias, 1 chronic otitis media, and 1 essential hypertension. All of these cases, not already under the care of their private physician, were referred for treatment.

The numbers of emotional and psychological disturbances during the spring examinations were much fewer than usual. Assistance with psychological problems we feel to be an integral part of the complete medical service available to students, and this service could be greatly improved by the provision of some sort of vocational guidance in the University.

Five students wrote one final examination each in this office, due in one case to a psychological disturbance, and in four cases to illness.

A series of 4 lectures in Health was given to first-year women. Dr. Mary Northway kindly consented to give one of these lectures. We should like to see this co-operation with the Department of Psychology continued, as it provides sound and necessary guidance to the students in their adjustment to college life.

We welcome the adoption of a plan for the future of extension of the Health Service to women of all years in all colleges. We also trust that the hope for a women's building will be realized as soon as possible after this war.

JESSIE A. MCGEACHY

REPORT ON ATHLETICS AND PHYSICAL TRAINING (MEN)

Physical Training

The programme in Athletics and Physical Training for the male students was arranged by our Director of Athletics and Physical Training, Mr. Warren Stevens, and the staff, after consultation with the Commanding Officers of the C.O.T.C. and the Training Centre Battalion. The capable assistance of his staff, Messrs. W. H. Martin, J. E. McCutcheon, W. W. Winterburn, and C. Zwygard, ensured the successful completion of a programme that met the needs of all students in the various physical activities.

An important addition to the staff this year is that of Mr. M. G. Griffiths, B.S.A. (Toronto) and a graduate of Springfield College, M.P.E. In addition to his many duties in the Department of Athletics and Physical Training, Mr. Griffiths, along with Mr. Stevens, Mr. McCutcheon, and Mr. Zwygard, assists with the teacher training for men students in the School of Physical and Health Education. His wide experience and expert technical knowledge has already proved to be invaluable.

Classes were held from October 15 to April 15, a total of 22 classes weekly. The syllabus of training provided a well-balanced programme embracing Danish drill, light apparatus, tumbling, games, and swimming.

An improvement was noted in the Freshman Swim Test where 1,105 first-year men were examined and 156 were found unable to swim satisfactorily and were therefore assigned to learn-to-swim classes; 136 of these men we retaught to swim. The increased importance placed on swimming ability by the active

service forces has provided a real stimulation and encouragement for those teaching this course.

Observations made during the year showed that the increased amount of military work required of most students had resulted in a decreased amount of Physical Training taken by the average student. There are plans now under consideration that will remedy this situation as it is a recognized military opinion that rugged manpower is one of the most important factors in this war and therefore it is a vital duty to develop and maintain a high standard of physical fitness in all undergraduates.

The enrolment was as follows:

Men students in the first and second years			2,010
From this total must be deducted those:			
(*a*) With credit for two years' Physical Training but repeating academic work	54		
(*b*) Exempt on medical grounds	37		
(*c*) Exempt as members of religious orders and on other grounds	53		
(*d*) Withdrawn from college during the session or registration cancelled	83		
(*e*) Failed to register	18		245
			1,765

These 1,765 students took their Physical Training as follows:—

In Physical Training classes	837	
In Swimming classes	249	
As volunteer instructors	53	
In the Canadian Officers' Training Corps	159	
In the Training Centre Battalion	900	
In special classes for those physically deficient	61	
In interfaculty sports (15 activities)	855	
	3,114	
Less those participating in two or more activities	1,349	1,765

Athletics

Under the 1941-2 regulations passed by the Canadian Universities' Conference and the Canadian Intercollegiate Athletic Union, a limited amount of athletic competition with outside teams was permitted, providing any fixtures scheduled entailed no travelling by the member colleges of the Canadian Intercollegiate Athletic Union. The Athletic Association arranged meets and games with various local Active Service Units and some United States college teams. The sports in which we fielded representative university teams were harrier, track, soccer, swimming, basketball, boxing, wrestling, and fencing.

Athletic Nights

Six athletic nights were again held during January and February and the response from the student body was even more enthusiastic than the previous year. Each night the programme consisted of basketball games, a swimming meet, water polo, boxing or wrestling or fencing, and specialty features. Colleges and faculties of the University acted as hosts and the average attendance was approximately 1,200 students with the Faculty of Medicine night topping the list with 1,740 present. The net receipts were $1,200 and the Athletic Directorate turned this money over to several war relief organizations. The increased popularity of these gatherings again emphasized the importance of a meeting place where men and women of all faculties and colleges can gather in a healthy and wholesome environment.

Athletic Fee

The privileges provided by this fee were again enjoyed by many thousands of students. The outdoor skating rink, the athletic wing at night, the ski trails, the riding clubs, and the golf club were all patronized enthusiastically by undergraduates.

Intramural Competition

The importance of the complete and efficient organization of all University athletics was again demonstrated in the past very successful season, the third under war conditions. The following schedule shows that there were 3,830 entries in various activities in which 1,994 students participated, or 52 per cent of the male student body.

The T. A. Reed Trophy for the highest points in participation (awarded in proportion to the enrolment in the Colleges and Faculties) was won this year by Trinity College. Applied Science was second, Knox College third, and University College fourth. This is the second time in the six years since its establishment in 1936 that Trinity has won this Trophy. It speaks well for the enthusiasm of her students that 96 per cent of the freshman year took part in some form of competitive athletics and 80 per cent of the entire student body.

The Intramural Sports Committee, acting under the supervision of the Athletic Directorate, had, as its chairman, Mr. Jack H. Mullett, Dentistry V, and R. Gerry Prodrick, Victoria IV as vice-chairman. Mr. J. E. McCutcheon as supervisor of Intramural Athletics was again the efficient secretary and executive officer of the committee.

Series	*Name of cup*	*Winner*	*Interfaculty teams*	*Players*
Rugby	Sir William Mulock	Victoria	9	241
Senior track	W. L. Rowell Memorial	S.P.S.		50
Relay track		S.P.S.		35
Junior track		S.P.S.		47
Senior harrier	J. Brotherton	S.P.S.		13
Junior harrier		U.C.		71
Soccer	Arts Faculty	S.P.S.	12	193
Hockey	W. T. Jennings	Jr. S.P.S.	23	329
Basketball	Clifford Sifton	P.H.E.	59	591
Box lacrosse	Dr. W. A. Dafoe	Sr. S.P.S.	13	150
Senior boxing, wrestling, and fencing	Francis Davidson	S.P.S.		54
Junior boxing, wrestling, and fencing		Trinity		48
Indoor baseball	A. G. Spalding & Co.	Dent "A"	52	700
Swimming league		Jr. S.P.S.	13	125
Senior swimming	A. M. Fitzgerald	S.P.S.		17
Junior swimming		S.P.S.		93
Water polo	H. P. Eckardt	Sr. Med.	11	119
Indoor track	Toronto Cricket Club	S.P.S.		158
Tennis: Team	Victoria Tennis Club	Victoria		74
University champion	F. Y. McEachren	B.W. Hall, Emmanuel		
Senior gymnastics	H. A. Wilson	P.H.E.		11
Volleyball	Victoria Staff	Dent "A"	34	322
Golf		Trinity		93
Badminton		Knox "A"		68
Squash racquets		St.M. "A"		66
Skiing		S.P.S.		37

Total number of registrations	3,705
Plus participants in inter-residence competition	125
	3,830
Less those participating in two or more sports	1,994
Number of individual contestants	1,836

Stadium and Arena

The Stadium and Arena were again engaged by outside organizations in the hours when they were not required for University purposes, chiefly for the rugby games of the Interprovincial series and the Canadian Rugby Finals,

and the extensive programme of the Major Commercial and other series under the control of the Toronto Hockey League. During the summer months the Arena was used for the 25 weekly concerts of the Promenade Symphony Concerts which have now become a feature of the artistic life in this community. Other uses to which the Arena has been put were the closing exercises of the Bible College, the annual inspection of the St. John Ambulance Brigade, and the programmes of the Optimist Club and the Eaton Athletic Club, both of which raised considerable funds for war relief purposes. It is a matter of gratification that this building which was primarily built for University hockey and skating can, in the long summer season, be useful for the benefit of the public.

Athletic Directorate

Two men who brought distinction to the University in their undergraduate days and maintained a lively interest throughout their lives will be much missed in the years to come. The late James McGregor Young, K.C., U.C. 1884 and Professor in Constitutional Law from 1904 to 1912, sat on the Athletic Directorate from 1904 to 1906 and was a member of the Advisory Board until his death. The late Dr. George M. Biggs, Med. 1904, was a member of the first rugby team from 1899 to 1905, a First Colour man as well as a Captain in 1902. In his honour his wife and son have established a handsome sterling silver trophy to be called the George M. Biggs Trophy awarded annually to "the undergraduate of the University who has contributed most to University athletics from the standpoint of leadership, sportsmanship and performance." The award for 1941-2 was made jointly to Lieut. J. H. Mullett, a graduate in Dentistry, and Sub. Lieut. D. G. Finlayson, a graduate in Applied Science, both on Active Service. Both of these recent graduates have distinguished themselves throughout their college course in those very qualities for which this unique trophy stands.

The Athletic Directorate for 1941-2 consisted of Dr. J. A. McCollum (President), Professor S. Beatty, Dr. W. Easson Brown, Dr. W. A. Dafoe, Messrs. J. H. Murray (Vice-President), G. Diamond, D. G. Finlayson, J. H. Mullett, H. A. MacMillan, R. G. Prodrick, and, *ex officio*, Dr. R. W. I. Urquhart, Director of the University Health Service, Warren Stevens, Director of Athletics and Physical Training, and T. A. Reed, Financial Secretary.

T. A. Reed

REPORT OF THE ASSISTANT DIRECTOR OF PHYSICAL TRAINING FOR WOMEN

This has been a year of expansion for this department. The number of women students taking the required Physical Education classes in the first year has increased from 187 last year to 451 this year, due to the new requirement of first-year Physical Education for the women in Victoria College and Trinity College. Because of the merging of the Margaret Eaton School into the University, the staff and the accommodation have increased. Thus we were able to offer instruction in all of the following subjects: archery, badminton, basketball, fencing, figure skating, golf strokes, swimming, tennis, and dancing (creative, tap, and recreational). Students were required to take one gymnastic period a week and could elect to take either one or more of the above subjects or join one of the following college teams: badminton, basketball, ice-hockey, tennis, or volleyball. Those needing posture correction were given from three to twenty classes according to their individual need.

Enrolment was as follows:

University College	176
Victoria College	178
Trinity College	73

Faculty of Medicine	18
Faculty of Household Science	4
Faculty of Applied Science and Engineering	0
Faculty of Dentistry	2
Credit obtained in Physical Education but repeating year	7
Medically exempt from Physical Education for year	6
Withdrawn from College	5

There were 261 first-year students who elected to take swimming, including elementary and advanced swimming and life saving, 22 of whom were non-swimmers who were able to swim at least the width of the pool by the end of the year. There were 131 other undergraduates and 18 members of the administrative staff who took advantage of some of the 16 hours per week of instruction. The total number of individual swims was more than double those of last year.

There were 7 life saving classes organized and a total of 84 awards of the Royal Life Saving Society was gained as follows:

1 Gold Medal and Diploma with Honours
2 Awards of Merit
7 First Class Instructor's Certificates
36 Bronze Medallions
38 Intermediate Certificates

We are proud to record that the Diploma with Honours was obtained by Miss Winifred Baxter, a graduate in 1941 of the diploma course in Physical Education. Miss Baxter is only the second candidate in the Ontario branch to be awarded the Gold Medal since it was instituted in 1932.

There were 4 students registered in the fourth year of the diploma course in Physical Education for Women. This is the last class to graduate from this course. Next year the group will obtain the degree of Bachelor of Physical and Health Education. The diploma course was instituted in 1922 and the first class graduated in 1926, the students taking the four-year Pass course in Arts and quite independent of that, a diploma course in Physical Education. In 1931 the Pass course was changed to three years; thus it was necessary to revise the diploma course. Pass Arts subjects were chosen as a background for Physical Education and a fourth year of Physical Education, theory and practice, was added to the Physical Education taken in each of the other three years. Nearly 60 women have obtained the diploma, most of whom have attended the Ontario College of Education and have obtained excellent positions as teachers in the secondary schools in Ontario.

It is with regret that we record the retirement of Miss I. G. Coventry who for 29 years was the Director of Physical Education for Women and under whose guidance the diploma course in Physical Education was instituted.

Jean M. Forster

REPORT OF THE SECRETARY-TREASURER OF THE WOMEN'S ATHLETIC ASSOCIATION

Participation in intramural athletics during the academic year 1941-2 has increased considerably, partly due to the new requirement of Physical Training for first-year women in Victoria and Trinity Colleges.

Golf, tennis, basketball, bowling, badminton, hockey, swimming, and skiing were the sports sponsored by the Association. University College, as in former years, arranged an invitation golf tournament in October. The individual championship was won by Miss M. D. E. Walker, U.C. IV. The four college tennis tournaments and the intramural tournament were held early in the term and the championship was won by Miss E. S. Geldert, U.C. II. The basketball series had the record entry of 14 teams, representing over 170 competitors, games being played at the College of Education, with the finals in Hart House; 43 games in all.

For the first time students had the opportunity to bowl in the fall as well as in the winter term and the change was entirely successful as over 100 were enrolled. The Midtown Alleys at Bloor and Brunswick Avenues were used. Badminton was also very popular, over 80 students using the St. Paul's Anglican Church courts which were rented for three afternoons a week.

Six hockey teams were entered in the series which started in February, in which over 70 students were engaged. Swimming enjoyed an increase in interest and three successful college meets were held prior to the usual intramural meet in Hart House early in March. Skiing was somewhat hampered by the weather, but every fine week-end saw hundreds of students journeying to the University grounds at Aurora. One intramural competition was held. An effort was made to arouse interest in volleyball, and teams from Victoria and University Colleges played several games, but the usual scarcity of gymnasium accommodation prevented more participation. Some 50 women were registered for figure-skating instruction, under the Athletic Fee privilege, and large numbers enjoyed open-air skating, golf, and riding under the same plan.

University College is to be congratulated on winning every organized competition, due to the splendid athletes registered in the College. It is felt that there may be some danger of too great a concentration of athletic ability in the one college in the future as all School of Physical Education students are offered membership in the U.C. Athletic Association. An effort is being made to reach a solution which will be fair to all.

The Women's Athletic Directorate for 1941-2 consisted of Dr. C. C. Benson, *President*, Mrs. W. A. Kirkwood, Mrs. W. B. Elsley, Dr. Jessie McGeachy, Miss J. M. Forster, and Miss A. E. M. Parkes, *Secretary-Treasurer*, as graduate representatives, and the Misses D. H. Ankenmann, A. E. Boyd, J. H. Crawford, C. M. Harrison, E. C. Kirby, and E. M. M. Mortimer, as undergraduates.

Report of the University of Toronto Detachment, Canadian Red Cross Corps

The University of Toronto Detachment of the Canadian Red Cross Corps has again been sponsored and maintained by the Women's Athletic Association. The total strength was 123, made up of 6 graduate officers and 117 other ranks, all undergraduate. Basic Training, as laid down for all members of the C.R.C.C., was provided for the 79 new members. This consisted of the Basic Course in Civilian Defence (A.R.P.) and the course leading to the St. John Ambulance certificate in First Aid or Home Nursing, or a special series of lectures relative to military hospitals provided for Physiotherapy and Occupational Therapy students.

The 38 old members were enrolled in one or other of the four sections of the Corps and were given training in the field selected. In addition to Advanced First Aid and Stretcher Drill, the Transport Section completed a course in Elementary Motor Mechanics given by the Ford Motor Company. Home Nursing, First Aid and Stretcher Drill were the training requirements for the Nursing Auxiliary Section. A short course in telephone switchboard operation given by the Bell Telephone Company, and a longer course in telegraphic transmission given by students in Aerial Navigation, were arranged for the Office Administration Section. The Food Administration group was confined to Household Economics and Household Science students, and a valuable course in Emergency Feeding and large-scale food provision was given by the Red Cross officers of this Section. One hour a week of military drill was required of all members for 20 weeks.

The Detachment took part in the Remembrance Day Service and the annual meeting of the Toronto Branch of the Red Cross, and the year's activity was brought to a close by a Demonstration of Training given in the Hart House gymnasium on March 20. The Detachment was inspected by the President of

the University and the guests included various University and Red Cross officials as well as the parents and friends of members.

The training received has already been of value to a number of members who have entered the women's division of the R.C.A.F., who are applying for admission to the newly formed Naval Service, or who are interning as therapists in hospitals in Canada or overseas.

The Detachment officers were as follows: *Commandant*, Miss A. E. M. Parkes; *Asst. Commandant*, Miss J. M. Forster; *Section Leaders: Transport*, Miss J. E. Griffith; *Nursing Auxiliary*, Miss C. A. Bryans; *Office Administration*, Miss W. Baxter; *Food Administration*, Miss H. R. Annesley.

A. E. M. Parkes

REPORT OF THE OFFICER COMMANDING THE UNIVERSITY OF TORONTO CONTINGENT CANADIAN OFFICERS' TRAINING CORPS

In general, military training during the session 1941-2 has been conducted along lines similar to those of the previous year. The Department of National War Services grants postponement of the call to a training centre of students of the University on condition that they undergo the prescribed military training. In addition, by regulation, the Board of Governors required all students who were born between October 1, 1917, and September 30, 1921, inclusive, to take military training. This regulation applied only to students who are British subjects, who are found physically fit, and who are not members of reserve units. Those outside the age group could apply to take the training voluntarily.

The Officers' Training Battalion

Those who had previously completed 110 hours of intra-mural training in the Training Centre Battalion, or had equivalent military experience, were admitted to the C.O.T.C. to train in a selected arm of the service provided they were considered potential officer material by the officers of the arm concerned, and were willing to accept an appointment in the Active Force not later than the completion of their academic courses.

Courses leading to Lieutenant's qualification (R.F.) were conducted in Artillery, Engineers, Signals, Infantry, Machine Gun, Army Service Corps, and Ordnance (Mechanical Engineers). The periods up to the middle of December were devoted principally to those subjects which are common to all arms, and on which candidates wrote examinations at that time (Syllabus "B").

During the spring term instruction was given in subjects special to the various arms, and examinations were written in the latter part of March (Syllabus "C").

As much of the practical work as possible was conducted out of doors during the good weather of the fall term and included manœuvres in High Park and other suburban districts.

The annual inspection was conducted by Wings during the third week of February. Major-General C. F. Constantine, D.S.O., inspected the Artillery Wing and detailed officers of his staff to inspect the other wings.

The organization and principal officers of the Officers' Training Battalion were as follows:

Officer Commanding	Lt.-Col. H. H. Madill, V.D.
2 i/c and Chief Instructor	Major M. B. Watson
Paymaster	Major T. A. Reed, E.D.
A/Adjutant	Major H. C. H. Miller
Asst. Adjutant	Lieut. A. Ragen
Quartermaster	Capt. C. A. Johnston
Chaplain	Capt. W. C. Lockhart, C.C.S.
Medical Officers	Major J. L. McCollum, R.C.A.M.C.
	Lieut. H. A. Burnett, R.C.A.M.C.

Company Commanders:

"A" Coy. Artillery	Major G. F. Davies
"B" Coy. Artillery	Lieut. D. B. Fisher
"C" Coy. Engineers	Major H. W. Tate
"D" Coy. O.M.E.	Major W. E. P. Duncan
"D" Coy. Signals	Capt. G. T. Hodgson
"E" Coy. Infantry (R)	Major B. E. Tolton
"F" Coy. Infantry (R)	Major W. E. Carswell
"I" Coy. Infantry (M.G.)	Lieut. J. F. Flinn
"K" Coy. A.S.C.	Lieut. B. Wilkinson

The Training Centre Battalion

The work of the Training Centre Battalion was carried out on much the same lines as during the session 1940-1, and all those who did not qualify or elect to take training in the Officers' Training Battalion were enrolled in the Training Centre Battalion. About 2,000 in all registered for training at the beginning of the session, and this number was reduced to a strength of about 1,500 who actually took military training. Some students could not take training on account of low medical category, and students in the clinical years in Medicine and Dentistry were not required under the regulations to take military training. Medical students took military medicine instead.

The Battalion was organized into six companies. One company consisted of those who had completed one month's training (110 hours extra-mural training plus two weeks at camp) and the remaining students formed the other five companies.

The Battalion was favoured with extremely fine weather throughout the first term, and was able to carry on outside. After the New Year the facilities of the University Avenue Armouries and various lecture rooms were used. Several route marches were held, and the Training Centre Battalion, along with the Officers' Training Battalion, participated in the War Savings Campaign parade in November.

The Battalion suffered a severe loss at the end of February with the departure of Capt. E. A. Macdonald for Active Service. Capt. Macdonald had been adjutant of the Battalion since its organization.

The organization and principal officers were as follows:

Officer Commanding	Lieut.-Col. W. S. Wilson, E.D.
Second-in-Command	Major W. S. Wallace
Chief Instructor	Major G. R. Lane
Adjutant	Capt. E. A. Macdonald Lieut. J. C. Evans
Quartermaster	Lieut. E. A. Wilkinson
Medical Officer	Lieut. D. L. Selby, R.C.A.M.C.

Company Commanders:

"O" Coy.	Major F. R. Crocombe (advanced, All Faculties)
"Q" Coy.	Capt. C. R. Sanderson (Vic., St. M., O.C.E., Forestry)
"R" Coy.	Capt. M. Crabtree, M.C. (Medicine, Pharm.)
"S" Coy.	Capt. L. T. Hargreaves (Applied Science)
"T" Coy.	Capt. J. H. Horning (Applied Science)
"W" Coy.	Capt. R. A. Barbour, M.C. (Vic., Trin., Dent.)

The Brass Band

The Brass Band had a strength of about 60 and played for both battalions on route marches and various other occasions. The Brass Band did not go to camp.

The Pipe Band

The pipe band with a strength of about 20 under the leadership of Pipe Major J. Reid continued to be very popular and assisted materially with the training. A pipe band of about 10 members accompanied the battalions to camp.

The Air Force Wing

A new development in training at the University this year was marked by the organization of an Air Force Wing of the C.O.T.C. This followed proposals made by a representative of the R.C.A.F. to a conference of C.O.T.C.'s on August 30, 1941. Discussions of these proposals resulted in the adoption of a University Air Training Plan which was communicated to universities by the Deputy Minister for Air just prior to the opening of the academic session at the end of September.

The University Air Training Plan provided that students interested in aircrew service might qualify, in 112 hours during the academic year, supplemented by two weeks of "summer camp" at a Service Flying Training School, for entry to an Elementary Flying Training School or an Air Observer School. Students so qualified would be able to short-circuit the period of security-guard or tarmac duty and a course at an Initial Training School which ordinarily follow the recruit's training that is given to prospective members of aircrew at Manning Depots.

To qualify for admission to the Air Force Wing of the University of Toronto Contingent C.O.T.C., it was required that a student have 110 hours or equivalent basic military training and senior matriculation standing in Trigonometry. It was also necessary that he meet the medical requirements of the R.C.A.F. for aircrew and sign a statement of honourable intention to join the R.C.A.F. at the end of the year or upon graduation. Despite the limitations imposed by these prerequisites and the fact that there had not been time for any advance notice of the plan to be given, two Flights, each consisting of 36 accepted applicants, were organized at this University. As trainees of the R.C.A.F. these men were supplied with uniforms by that service, and had a very active and satisfactory year's training by instructors of the R.C.A.F. and of the C.O.T.C. and University staff—partially at No. 1 Initial Training School of the R.C.A.F. and partially at the University. Lieut. F. L. Hutchison of the C.O.T.C., formerly of the R.A.F., was in charge of the Wing. Though a few men dropped out of the Wing during the year through reasons such as immediate enlistment in the R.C.A.F., and though a number of men were unable to attend summer camp owing to employment in war industries, a total of 43 proceeded in May to No. 1 Service Flying Training School at Camp Borden. Their experience was thoroughly profitable and enjoyable, and it is gratifying to report that with extremely few exceptions they were successful in completing their I.T.S. work at this camp.

Camp

The annual camp was held at Niagara-on-the-Lake, June 7-21, with a strength of approximately 300 in the Officers' Training Battalion and 500 in the Training Centre Battalion. The training at camp was most satisfactory this year largely due to the fact that adequate equipment was available for training including motor transport, and the amount of firing on the ranges.

The Inspector General, Major-Gen. T. V. Anderson and the Area Commandant, Brig.-Gen. G. E. McCuaig, inspected both battalions on Tuesday, June 16. No ceremonial parade was held and the regular work of the syllabus was continued.

A tactical exercise employing the various arms was held on Thursday, June 18. During the manœuvres a section of the bridge across Two Mile Creek was blown out by the defenders and an assault bridge launched by the attacking force. Gas bombs and thunder claps and the blowing of craters added to the realism.

On the same day we were honoured by a visit from the Honorary Colonel, President Cody, accompanied by the Registrar and the Bursar. They were also present at the Mess dinner in the evening.

Appointments

It is difficult to keep an accurate record of appointments received by members of the Unit owing to the fact that they come from various parts of Canada. It is known that 421 received appointments during the twelve months, July 1, 1941, to June 30, 1942. These were distributed by arms as follows:

Artillery	57	R.C.N.V.R.	30
Engineers	23	C.A.C.	37
Signals	33	R.C.O.C.	43
Infantry (R)	102	R.C.A.M.C.	2
Infantry M.G.	17	No. 2 D.D.	2
A.S.C.	16	C.D.C.	13
R.C.A.F.	37	C.A. (A) Misc.	9
		TOTAL	421

Remembrance Day Service

This service was conducted on November 11 on the front campus of the University. The parade was drawn up on three sides of a square. A detachment of the R.C.N.V.R. was on the east side, the two battalions of the C.O.T.C. on the south side, and a detachment of the Air Force on the west side. Those in the Navy and Air Force detachment were undergoing courses of instruction at the University.

Following the service a march past took place, the salute being taken by his Honour Mr. Albert Matthews, Lieutenant-Governor of Ontario, in front of University College.

During the service, the President read the names of 27 officers and 6 other ranks who had fallen in the war.

The Annual Ball

This social event, held in Hart House in February, has the triple purpose of giving a most enjoyable evening to the cadet members of the Corps, of enabling our much separated officer personnel to meet socially, and of entertaining the friends, and benefactors of the Corps, including the senior Officers of M.D.2 and O.C.'s of the local reserve units, through whom many of our cadets have received their appointments as officers. The ball this year was the largest yet held, there being an attendance of over seven hundred.

The New Wing

During the year an additon was built to 119 St. George Street, consisting of Quartermaster Stores and Q.M. office on the ground floor and large lecture room on the second floor. This wing greatly facilitated the handling of the large number of uniforms and the equipment belonging to the Unit.

Appreciation

A contingent the size of that at the University of Toronto, with its various arms and different syllabuses, carries out a very complicated time-table and programme of instruction. This training is made possible only by the untiring efforts of the officers and the co-operation of all members of the Unit. As in other years the Athletic Department has given fullest co-operation. The Superintendent of Buildings and his staff have done their utmost to meet our large demands for accommodation, and the Registrar has been very helpful in the administrative work with regard to those who are required to take military training.

H. H. MADILL

REPORT OF THE SECRETARY-TREASURER OF THE STUDENTS' ADMINISTRATIVE COUNCIL

In making plans for 1941-2, the Students' Administrative Council, after careful discussion, reached the conclusion that so long as there are large numbers of students attending the University, they will need most of the services which the Council offers. For this reason the normal activities of the Council, with few exceptions, have been carried on throughout the year.

The standing committees of the Council each functioned admirably, with the work of the Finance, Publications, and Student Service Committees being quite as heavy as usual. The Debates Committee had its work reduced considerably and the Sporting Activities Committee is unlikely to function again for the duration of the war, as it had to do almost entirely with intercollegiate affairs.

The finances of the Council have continued to be satisfactory, though the change-over to the composite fee instituted by the University this year has made it difficult to make comparisons with other years. Expenses were kept to a minimum so that it was possible to make various donations, notably to the Mount Allison University Fire Fund, the University Carnegie Records Committee, the University Settlement, and the International Student Service. The Council sponsored a "March of Dimes" in December in aid of the work done by the latter organization for student prisoners-of-war, and about $1,200 was raised throughout the University in one day's effort.

The Undergraduate Loan Fund again assisted a number of students of the upper years and, in addition, at the request of the Board of Governors, loans were made to some students registered in the lower years in Medicine who were experiencing difficulties because of the shortened earning period during the summer. Over $3,000 was lent in this way. Excellent repayments were made on previous loans so that no further allocations to the Fund were needed. The Council is indebted to Dr. J. J. Gibson, Chairman of the Loan Fund Committee, for his continued interest and advice.

The publication of some form of daily bulletin is almost an essential in so scattered an institution as this and *The Varsity* has more than proved its value as a medium for military orders, academic notices, and general student information. In addition, the University has been fortunate this year, as for a number of years past, in having a *Varsity* editor who was not only an able journalist but who was fully aware of the great responsibility resting on his shoulders in guiding undergraduate public opinion in the right direction. The Editor, Dr. Dent Hodgson, the Women's Editor, Miss Heather Hill, and their staff, are deserving of sincere congratulations on the year's work. *The Varsity* is published five days a week, making 100 issues from October to the middle of March. The daily run is some 5,500 copies, and exchanges go to other universities all over the continent. While there was some slight reduction in the amount of advertising, this has been comparatively small because of the guaranteed circulation of the paper and the certainty that it is consulted daily by almost every student for one purpose or another.

The *Students' Handbook*, containing a map of the city and general information regarding the University and undergraduate organizations, is of the greatest value to the student and consequently to the advertisers, and publication of this useful little volume will continue.

Torontonensis, the year-book, was edited for the second time by Mr. Albert Mallon, a student registered in the Ontario College of Education. The book is a most artistic volume and also gives an excellent picture of the University in war-time. It will undoubtedly be a valuable addition to our war history and is most fittingly dedicated "To our University which in manifold ways is contributing to the struggle for world freedom." Fourteen hundred and fifty copies were issued, the volume being numbered forty-four. Because of the value of the

book in the continuity of the University records, it is hoped that it can again be published next year, but the future is uncertain because of the amount of metal required for cuts.

The Council once more had the opportunity of sending two undergraduates on a debating tour of several American universities. The University of Missouri again issued the invitation and made all arrangements. The students selected were Mr. E. S. Kirkland (now Sub-Lieut. Kirkland, R.C.N.V.R.), 1st Vice-President of the Council and President of the Victoria College Union, and Mr. D. M. Hayne, one of the most brilliant students and debaters of University College. The trip was in November, prior to the United States' entry into the war, and all reports indicate that these men made a valuable contribution to the establishment of a better understanding between the two countries.

The Housing Service maintained by the Council was of particular value during the year because of the shortage of residence accommodation created by the use of many residences by the R.C.A.F. A number of homes where room and board could be obtained in return for services were again available and, in fact, more homes for women were offered than could be used because of the shortage of domestic help.

The Employment Service had a banner year and many more openings were offered than could be filled. A number of permanent positions for both men and women graduates were available, and part-time Christmas and summer employment was plentiful. In the latter field, several difficulties were encountered, e.g. most of the men had to go to camp for a large part of June, and much of their value was lost to an employer. Also most of the defence industries, work in which would exempt a man from camp, would only take on Applied Science students because of the time wasted in training others. In addition, the medical students were only free from June 20 to August 25 which made them difficult to place. It appeared at first that the new government regulations would prevent students from taking work in the restricted industries during the summer. In correspondence with the Director of Technical Personnel, it was pointed out that if the government desires to have students complete their university course, they must be permitted to earn an adequate amount during the summer vacation. Exemptions were very shortly made for University men so that no difficulty was found in placing them on lake boats, in summer resorts, in playgrounds, as life guards, as drivers of ice and confectionery trucks, and in many other seasonal occupations. As by far the greater number of graduating men enlisted for active service or entered one of the essential industries, comparatively few were placed by the Council Service. Excellent openings for women were available and most of them were filled. In all some 1,325 men and 300 women were referred to openings of one sort or another.

The University Symphony Orchestra was disbanded at Christmas when the conductor, Mr. Herbert Cowan, joined the Navy and various other difficulties were encountered in organization.

The Council Offices were once more used as a clearing house for varying matters of interest to the student body, such as University jewellery and blazer orders, War Savings Stamps, tickets for the Graduation Ball, obtaining ushers for University functions, etc.

The only social functions of the year were the greatly appreciated dinner given annually to the Council members by the President and Mrs. Cody, the dinner given by the Council to the members of the masthead of *The Varsity*, and the two Convocation Garden Parties. The first of these on Thursday, June 4, was much smaller than usual on account of the early graduation in Medicine and Dentistry. About 1,200 guests were present, however, and on the Friday about 4,000 enjoyed the hospitality of the Council. The presentation of the 27 Council "Honour Award" keys and certificates was particularly impressive this year as

9 of the 17 men honoured were already on active service, 6 of them being present in uniform to receive the award from the President's hands.

At the end of February the Council lost the highly valued services of its General Secretary-Treasurer, Capt. E. A. Macdonald, who was selected for personnel work with the 4th Armored Division. The experience gained in ten years of dealing with the problems of University men of every type, added to the personal qualifications which accounted for his success in his University work, made him an ideal selection for his new duties. The Associate Secretary, Miss A. E. M. Parkes, has been appointed Acting General Secretary-Treasurer and Professor W. J. T. Wright has been appointed by the President to replace Professor S. N. F. Chant, now a Wing-Commander with the R.C.A.F. Professor Wright is acting as special adviser to men students and Professor Lorriman has taken on extra duties in connection with the Finance Committee.

Adjustments will doubtless have to be made in Council affairs as war conditions may demand, but the undergraduates are fully prepared to do what is necessary and so far have met every situation with cheerful acceptance.

A. E. M. Parkes

REPORT OF THE ACTING MANAGER OF THE UNIVERSITY OF TORONTO PRESS

In the month of May, Mr. A. Gordon Burns, who had for more than six years served the University faithfully and successfully as Manager of the Press, decided to enter the Canadian Army and asked for leave of absence for the duration of the present war. In his absence, the members of his staff, many of whom were trained entirely by him, have been carrying on with the determination that the work shall not suffer because the Manager is serving his country and is aiding directly in the prosecution of the struggle for freedom.

During the session now closing, in spite of an increasing shortage of skilled labour in the printing industry, and restrictions in variety of paper and binding, the University of Toronto Press has continued its publication of carefully selected books and studies, 21 volumes in all. The complete and revised Catalogue of the Press, published in the spring of 1942, is an interesting record of University scholarship.

Although the University of Toronto presses have been running for forty years it is only since 1932 that they have been printing books for general sale in any quantity. During the last ten years the number and quality of the titles have been steadily increasing and the recognition they have received in Canada and the United States from the academic world, from libraries and from the lay reader has been most encouraging.

Among recent volumes of special interest are several booklets on military law and administration, elementary drill, artillery mathematics, and aviation medicine. Mr. W. E. K. Middleton's work on *Meteorological Instruments* is being widely used in Canada and in the United States. Several studies have been published in the series in Political Economy, including a collection of *Essays in Transportation in Honour of W. T. Jackman:* Professor Coxeter has added a volume to the series of Mathematical Expositions; a three-volume work on the *Chinese Jews* by Bishop W. C. White is in course of publication as an addition to the Museum Studies.

The bibliographical work in Canadian history and economics done by the *Canadian Historical Review* and the *Canadian Journal of Economics and Political Science* has received recognition in the form of a grant from the Social Science Research Council. Part of this money is being used to prepare the decennial index (1930-39) of the *Canadian Historical Review*. This index will be ready for publication next year.

Through its books, monographic studies, and journals, the University of Toronto Press is providing a medium of publication for works written not only by members of the staff of this University but also by those in the other Uni-

versities in Canada. Thereby it is contributing to the promotion of sound scholarship throughout the Dominion.

What the students and the staff of this University would do without the book department it is difficult to imagine. Here are kept on sale the text-books prescribed in the curricula of every Faculty, School, and Department of this great University. Microscopes are kept in stock for those who require them and may, in war-time, be rented by students who do not care to buy them. The clerks advise when asked, recommend what is best and, in general, do everything that can be done to assist students. Here professors may order books that cannot be obtained elsewhere; here they arrange for necessary changes in text-books for their classes. Students may purchase here their stationery, pins, pennants, cushion covers, and crests.

In the printing department, with its composing room, its proof-reading room, its bindery, and its press room, a complete, up-to-date printing service is available for the use of every section of the University and for organizations and societies that have a connection with this or any other Canadian University. There is no competition with commercial printing houses. Student magazines are printed here and staff magazines like *The School*, the *University of Toronto Quarterly*, and the *University of Toronto Law Journal*, the *Canadian Historical Review*, and the *Canadian Journal of Economics and Political Science*. All the university calendars and all the examination papers, pamphlets, bulletins, placards, everything large or small that needs to be printed, can be produced here to the entire satisfaction of those interested.

Of the editorial department many professors are prepared to say, and do say, that it is unique on this continent. Its contribution to the production of high-class books and periodicals is noteworthy. To an author it is a source of the greatest satisfaction to realize that here his manuscript will receive expert attention in editing, choice of type, proof-reading, and in every particular which makes for perfection.

To serve the University, in war and in peace; to do whatever can be done, within its proper sphere, faithfully and efficiently—such is the spirit of the University of Toronto Press.

W. J. Dunlop

RESEARCH

Faculty of Arts

Applied Mathematics

Under the direction of Professor J. L. Synge

Mr. W. Z. Chien, who holds a Sino-British Indemnity Fund Scholarship, has completed his work on the theory of thin elastic shells and plates. He has obtained the principal parts of the differential equations of equilibrium for all cases. These include as particular cases all the forms of equations used by engineers and there are many others, not previously known.

Professor Infeld has continued work on the factorization method in eigenvalue problems and prepared a paper for publication.

Dr. Weinstein has presented papers (i) on the buckling of a rectangular plate, compressed in one direction, (ii) on the flexual centre and the centre of twist, and (iii) applications of complex integration to the spherical pendulum and other dynamical problems He is at present engaged, in collaboration with Mr. Chien, on the computation of the frequencies of clamped rectangular plates under tension. This problem has a practical application to the vibration of ship-plates under the impact of waves.

Much of the usual research activity of the Department has been directed to war research problems.

Astronomy

Under the direction of Professor R. K. Young

General Programme

Observation and measurement of all the stars for radial velocity in and near the Kapteyn Areas in regions 6×6 degrees square for the northern hemisphere, down to a limiting photographic magnitude 7.6, have been completed. The first list of about 500 stars was completed and published in 1939. The results for the remainder of the stars numbering about 400 are now being collected and prepared for publication. The Observatory is undertaking the determination of the radial velocity of all the stars listed in Schlesinger's Bright Star Catalogue which have not been previously observed for radial velocity. These number nearly 800. It is planned to obtain 4 plates of each star. During the past year 979 spectra were secured. Of these about 500 were required to complete the Kapteyn programme mentioned above and the remainder were taken on the new programme. The measurement of the latter has fallen far in arrears and there remain nearly 450 plates as yet unmeasured. Observation of the stars was shared by Dr. F. S. Hogg, Mr. Longworth, Mr. Cunningham, and the Director. The greater part of the measurement has been carried out by Miss R. J. Northcott, with the assistance of Mr. R. M. Cunningham, Mr. W. F. M. Buscombe, R. K. Young, and others.

Special Researches

It has required nearly all the time of the depleted staff to keep the general programme in operation. In addition the research time of Dr. F. S. Hogg has been largely taken up with duties and instruction in connection with aerial navigation. However, Dr. Helen S. Hogg has been able to make good progress

on her programme of period determination and discovery of the variable stars in globular clusters. Considerable progress is being made on period determination in the cluster N.G.C. 6402, which contains 72 variable stars of previously unknown period. Periods have been obtained for about 15 and there are now sufficient plates available so that it is hoped that periods may be determined for the majority of the variables during the coming year. Sixty-one plates were taken the past year on these programmes. The work of hunting for new variables with the blink microscope on plates obtained in Arizona in 1939 is being continued.

Miss R. J. Northcott has completed the observation of the spectroscopic binary H.D. 93075.

Botany

Under the direction of Professor H. S. Jackson

I. Mycology and Forest Pathology

Under the direction of Professor H. S. Jackson

Cain, R. F.	A taxonomic study of Ontario Sordariaceae and related Sphaeriales.
	The mycological flora of Oxford and Brant Counties, Ontario.
Jackson, H. S.	The mycological flora of the Toronto region, the Temagami Forest Reserve, and of Algonquin Park.
	A taxonomic study of Thelephoraceae in Canada.
	A study of North American species of Corticium, Peniophora, and Aleurodiscus.
Lehmann, A. J. V.	A study of the nuclear phenomena of the germination of teliospores of certain species of Lepto-Puccinia.
Macrae, Miss Ruth	A study of phosphorescence in *Panus stipticus*.
Skolko, A. J.	A cultural and cytological study of Aleurodiscus.

II. Plant Ecology and Seed Studies

Under the direction of Professor H. B. Sifton

Structural Ecology

Facey, Miss V.	Abscission of leaves in deciduous plants and evergreens.
Moore, Miss R. H.	Effects of xeromorphic structure on the functioning of leaves.
Watson, W. R.	Developmental studies of leaf structure as related to light.

Seed Studies

Forward, B. F.	The influence of temperature and aeration on the germination of *Avena sativa* seeds.
Gordon, Miss E.	Dormancy studies in *Phleum pratense*.
McGugan, Miss J. .	Seeds and seedlings of the Genus Brassica.

III. Cytology

Under the direction of Professor L. C. Coleman

Coleman, L. C.	The cytology of Gasteria and Gasteria X Aloe hybrids.
	Study of *Agapanthus umbellatus* and *Kniphofia alloides* with special reference to differential condensation.
	The cytology of ring-forming organisms, more especially of *Rhoeo discolor*.
	The study of structure in the X-chromosomes of the Acridiidae (Grasshoppers).
	The intimate structure of chromosomes in widely separated forms.
Gopalayengar, A. R.	The cytology of Scilla and related genera.
	The cytology of the conifers.
Hillary, B. B.	Advances in photomicrographic technique (in association with D. H. Hamly).

IV. Plant Physiology

Under the direction of Professor G. H. Duff

Duff, G. H.	Project B.*F*.1., conducted in co-operation with Departments of the Dominion Government. Many members of the Botany Department have collaborated in this project.

Forward, Miss D. F.	The effect of oxygen supply upon the metabolism of the potato tuber.
Goulding, Miss H. J.	The influence of temperature upon the respiration record of the standard wheat leaf.
Paul, William	The absorption and distribution of metals in plants, studied by means of radio-active elements.
Rose, Dyson	The origin and metabolism of ascorbic acid in plant tissues.

V. Plant Pathology

Under the direction of Professor D. L. Bailey

Except where otherwise stated, these researches are being carried on in co-operation with the Vineland Horticultural Experiment Station.

Bailey, D. L.	Strawberry root-rot. A study of normal root development in relation to the incidence and progress of root degeneration.
	Physiological specialization in *Cladosporium fulvum*, the fungus causing tomato leaf mould. A hitherto unencountered physiological form has been isolated and its infection capabilities determined. As a result of the appearance of this form, the breeding programme with respect to the production of a resistant tomato variety has had to be entirely recast. A new greenhouse tomato variety -V-121- has been introduced and attempts are now being made to incorporate all the known resistances into a single variety.
Harrison, H. M.	A cold-storage disease of tomato fruits. In co-operation with the Ontario Agricultural College. This project had to be discontinued since Mr. Harrison went into active military service.
McKeen, C. D.	The etiology of a ring-spot disease of gladiolus corms.
	A study of the factors which modify the parasitic activity of Verticillium in selected soils.
Mead, H. W.	A co-operative study with the Dominion Plant Pathological Laboratory at Saskatoon of a seed-borne disease of barley caused by *Helminthosporium sativum*.
Welsh, M. F.	A crown rot of apple trees caused by *Phytophthora cactorum*. This project is supported by the National Research Council, Ottawa. Emphasis has been placed on a study of the influence of environmental factors, especially of soil moisture on disease incidence. These studies have been offered for publication in the *Canadian Journal of Research* and were presented as a Ph.D. thesis in May, 1942.

VI. Miscellaneous

(*a*) *Plant Morphology and Anatomy*

Thomson, R. B.	The comparative anatomy of the male and female cone scales of the conifers.
	A mucilaginous layer of the pollen grain of the conifers and its connection with "ring" formation.
	Polyembryony in seed plants.
Bannan, M. W.	Origin of adventitious roots in the native Ontario conifers.
	Wood anatomy of the South American genus Ryania.
	Anatomy of the native milkweed, *Asclepias syriaca*, and other lacticiferous plants.
	Wood structure of the incense cedar, *Libocedrus decurrens*.

(*b*) *Genetics*

Wright, Miss J. G.	The inheritance of form and colour in the flowers of *Linaria vulgaris* Hill.

(*c*) *Taxonomy*

Taylor, T. M. C.	A critical study of the genus *Woodsia*.
	Flora of the north shore of Lake Superior. A report on the plants of the Michipicoten area has been completed and one of the Peninsula area is in the course of preparation.
	Study of collections of vascular plants made by members of the Royal Ontario Museum of Zoology field party at Fort Severn, Ontario, and at Churchill, Manitoba.

(*d*) *Palaeobotany*

RADFORTH, N. W.
- A botanical analysis of the Onakawana lignite from Northern Ontario.
- Anatomical studies of fructifications from carboniferous fern-like plants.
- Identification of some fossil plants of a collection from the Tranquille beds in British Columbia.
- Investigations on some petrified wood and other plant remains from Kettle Point, Ontario.
- Anatomical studies of some fossil plant types from the Minto Coal Basin, New Brunswick.

(*e*) *Microscopy*

HAMLY, D. H.
- The critical interpretation of results obtained with optical and electron microscopes.
- Microscopic mensuration of fibrous materials.

Chemistry

Under the direction of Professor F. B. Kenrick

Forty-six students were engaged in research work during the year 1941-2 under the direction of senior members of the staff of whom 15 were themselves carrying on research. A large part of the work was war research, and more and more of the graduate students are being directed into this type of investigation. In many of the problems there has been close co-operation with the Department of Biochemistry, the Department of Chemical Engineering, the Banting Institute, the Connaught Laboratories, and the Ontario Research Foundation.

The degree of Master of Arts was conferred on 13 students, one of whom worked under Professor McLaughlin in the Department of Chemical Engineering; the degree of Master of Science in Agriculture on a student of the Ontario Agricultural College; and the degree of Doctor of Philosophy on 7 students, one of whom worked under Dr. Scott in the Connaught Laboratories.

Geology and Palaeontology

Under the direction of Professor E. S. Moore

Field or Laboratory Investigations in Geology

FRITZ, M. A. Studies of Devonian Bryozoa from New Mexico and a late Palaeozoic Stenoporid from British Columbia.

MOORHOUSE, W. W. Field work and final report, with map, on the Timagami Map-area for the Ontario Department of Mines. Gold mineralization in minor igneous intrusions. Studies of the lamprophyre dikes; contact phenomena of the granite; and hastingsite-like amphiboles of a differentiated gabbro sill, in Bryce and adjoining townships, Ontario.

OKULITCH, V. J. Completion of work for a monograph on Pleospongia and for a paper on new Phacopid trilobites from the Ordovician of Ontario and Quebec. Ordovician faunas from several localities in northern Ontario.

RUSSELL, L. S. General revision of the stratigraphy of the Canadian Great Plains. Completion of an investigation of the remains of Pleistocene horses near Saskatoon, and of the mollusks of the Eastend formation of Saskatchewan. Structure of the skull of the dinosaur Parasaurolophus. Applications of geology to mobile warfare.

Under the direction of the staff in Geology

CLAVEAU, J. The origin of the Long Lake zinc deposits, Frontenac County, Ontario.

CROMBIE, G. P. The use of insoluble residues in correlation of sediments.

FERGUSON, S. Field and laboratory investigation of the iron ranges of the Timagami area.

INGHAM, W. N. Field work for Canada Geological Survey and laboratory work on the structure and radio-activity of batholiths.

MILLER, M. L. The Rouge River-Oshawa stratigraphic section.

SCOTT, H. S. Relation of fracturing to some gold deposits in the Canadian Shield.

SMITH, F. G. Continuation of a laboratory investigation of the chemistry of gold deposition in ore deposits.

SPRINGER, G. D. Petrography and ores of the Hemiston-McCauley property.

WHITE, W. H. Study of the physical conditions of gold deposition.

Mineralogy and Petrography

Under the direction of Professor A. L. Parsons

Professor Ellis Thomson has completed an investigation of ore from the Upper Canada Mine, Dobie, Ontario.

Professor M. A. Peacock has continued his studies of rare, ill-defined, and unknown ore minerals by *x*-ray methods supplemented in some cases by mineral syntheses. The crystal lattices of goethite (α-FeO.OH) and lepidocrocite (γ-FeO.OH) have been redetermined and the confused crystallography of these minerals has been clarified. The crystal lattices of pyrostilpnite (Ag_3SbS_3) and of xanthoconite = rittingerite (Ag_3AsS_3) have been determined and unusual structural relations have been found between these rare monoclinic analogues of the ruby silvers. In collaboration with the Research Laboratory of the International Nickel Company and with the assistance of Dr. F. Gordon Smith, the properties of parkerite ($Ni_3Bi_2S_2$) from Sudbury, Ontario, have been completely determined, giving a re-definition of this previously ill-defined mineral from the nickel deposits of South Africa. With Mr. S. V. Burr a preliminary study of the alloys of palladium and bismuth has been made, revealing four compounds in this hitherto unstudied system and reproducing one undescribed mineral. With Mr. E. W. Nuffield a new optical effect, dispersion with re-crossing of the optic axial plane, has been found in goethite and studied with varying wave-length and temperature. Shorter *x*-ray examinations have been made on other crystalline substances including materials submitted by Dr. A. Hunter (Toronto), Professor T. Thorvaldson (Saskatoon), Professor H. Berman (Cambridge, Mass.), Dr. G. Tunnell (Washington, D.C.), and Professor J. Murdoch (Los Angeles, Calif.).

During the summer of 1941 Dr. V. B. Meen was engaged in the examination of the Garnet-Cunningham area, Ontario, and in a supplementary examination of the Madoc fluorite deposits. His reports on these are completed but await publication. His spare time during the winter was devoted to research on microchemical and spectrographic analysis of minerals.

Physics

Under the direction of Professor Burton

In many fields of research carried on in this department, regular investigations that we had planned to continue for some years had to be given up temporarily on account of the war problems that have been brought to the Department of Physics for solution. This applies particularly to Low Temperature, Thermionics and Radio, the Electron Microscope, and, to a certain extent, to Geophysics.

Geophysics

The department received during the year a second gift of $10,000 from the Viking Foundation; this has enabled the department to continue the work undertaken previously. The work carried out by Professor L. Gilchrist, Professor A. A. Brant, and Dr. N. B. Keevil will be indicated by the list of publications given in the next section of this report.

Radon Seed Production

The apparatus for the production and quantitative calibration of radon seeds, which is the property of the provincial government, but is under the direction of the Director of the McLennan Laboratory, has been operated very successfully during the past year, by Miss Lois Brandon (B.A., 1940).

Psychology

Under the direction of Professor K. S. Bernhardt

Several members of the department have been absent on leave of absence, so that research has been curtailed to some extent. Professors Bott and Myers have been in England doing special work for the Air Ministry. Professor Chant is a Wing-Commander in the R.C.A.F. directing the work of personnel selection. Professor Line is now a colonel in the Canadian Army and in charge of the directorate of Personnel Selection.

During the session 22 students were enrolled for graduate instruction in Psychology. Two candidates completed the requirements for the Ph.D. degree and three for the M.A. degree.

Two research fellows conducted intensive studies in their respective fields. Miss M. D. Salter who held the David Dunlap Memorial Fellowship continued her study on the educational adjustment of medical students. Her work has aided in the establishing of methods of selecting promising students in the Faculty of Medicine. Miss L. Neal who held the John Northway Memorial Fellowship completed a study dealing with a verbal classification test to differentiate between psychotic and normal individuals.

Outside his teaching programme, Professor Ketchum's time has been chiefly devoted to work in the field of morale. During the present year he has carried out several research projects and prepared a number of memoranda for governmental agencies concerned with morale, and his services have been frequently sought as a consultant. He has also continued his studies on the war attitudes of students, which have been carried on since 1939.

Professors Cosgrave and Bernhardt have directed a programme of psychological research for the Royal Canadian Air Force. This work was supported by a grant from the National Research Council and has been carried on by a staff of three research assistants. Professor Cosgrave has also been assembling literature on problems related to industry.

Two studies on emotional and abnormal behaviour in the rat have been directed by Professor Bernhardt as follows: with M. B. Arnold—Emotional factors in experimental neuroses; with F. Y. Tseng—The differentiation of anger and fear in the emotional behaviour of the rat.

Professor Cook has carried on several studies in the field of human learning continuing his work on the distribution of practice.

As Director of research for the Canadian Camping Association and representative of the research committee of the American Camping Association, Miss M. L. Northway has been co-ordinating studies in the camping area, directing the preliminary work on a study of the educational and social values of camping, and co-operating in a project to determine standards for camps and devising methods to appraise the extent to which these standards are reached. Miss Northway has also been co-operating with the National Committee for Mental Hygiene in studies on the social development of children. A technique for measuring children's social acceptability in a group was devised in 1940 and has been subsequently improved. During the year it was used in five schools in the Toronto district and was also extended to the pre-school level. Research in progress is concerned with personality characteristics related to successful social development as measured by this technique.

Zoology

Under the direction of Professor E. M. Walker

Animal Bionomics and Ichthyology

Under the direction of Professor A. F. Coventry

Solman, V. E. F. Ecological relations of ducks with special reference to predation by pike (*Esox lucius*) in the Prairie Provinces.

DYMOND, J. R. Taxonomy and distribution of coregonine fishes of northwestern North America.

Under the direction of Professor J. R. Dymond

RADFORTH, Mrs. I. Distribution of Ontario fishes.
TONER, G. C. Ecological and distributional studies of fishes of eastern Ontario.
WILDER, D. G. Study of the migratory and non-migratory habit with reference to the speckled trout.

ANIMAL PHYSIOLOGY

FISHER, K. C. Mechanism of the action of narcotics on cellular metabolism and function. This work has been continued and has been very materially assisted by the Banting Institute.

FISHER, K. C., BIEHN, Miss M., MARTIN, Dr. R. D. C., and ALDOUS, J. G. Under the auspices of the National Research Council two problems suggested in connection with the war effort have been investigated.

Under the direction of Professor K. C. Fisher

ARMSTRONG, Miss F. Relation of cellular metabolism to cell division with especial reference to the action of growth factors and chemo-therapeutic substances.
KIRK, Miss D. W. Relation of respiratory systems to the rhythmicity of the heart in Daphnia, using the information from the narcotic studies.
SCOTT, Mrs. GRACE WORKMAN. Relation of temperature to certain aspects of behaviour in fish and frog tadpoles.

COMPARATIVE ANATOMY

Under the direction of Professor E. H. Craigie

GLENNY, F. H. Anatomy of the thoracic and cervical arteries in certain groups of birds (part of an investigation of the patterns of these arteries and their significance in the whole avian class).

COMPARATIVE NEUROLOGY

CRAIGIE, E. H. Quantitative studies of vascularization in the brain of the alligator; morphology of the capillary bed in the brains of lung-fishes; morphology of the capillary bed in the brains of holostean, chondrostean, and teleostean fishes; measurements of vascularity in the brains of snakes; development of cerebral capillaries in Plethodon; localization in the cerebral cortex of the alligator.

Under the direction of Professor E. H. Craigie

DRUMMOND, S. P. Vascularization in the brain of the frog in hibernation.
WARNER, F. J. Structure of the diencephalon in the adult rattlesnake; embryonic development of the forebrain of the water snake; myelogeny in the brain of the water snake.

GENETICS

MACARTHUR, J. W. Cytogenetics of tomatoes; inheritance of fruit size and vitamin content in tomatoes; hybridization with newly introduced wild tomato species; size selection experiments with the house mouse; genetics of black and gray squirrels and of melanic deer mice; sex distribution among multiple births.

Under the direction of Professor J. W. MacArthur

BOYCE, H. R. Relationship of *Ascogaster carpocapsae* and *A. quadridentatus*.
CHIASSON, L. P. Cytogenetics and disease-resistance in tomato species and their interspecific hybrids.
MACILRAITH, J. J. Genetic methods for sexing of chicks at hatching.

HUMAN BIOLOGY

FORD, NORMA. Colour and taste reactions of multiple sets, including the Dionne quintuplets (with the co-operation of Dean Mason); dermal configurations of the parents and siblings of 80 mongoloids (with the co-operation of several Ontario and New Jersey hospitals); blood vascular systems in 200 placentae of multiple births (with the co-operation of six Toronto hospitals); inheritance of phenylketonuria.

FORD, NORMA, and MASON, A. D. A., Dean of the Faculty of Dentistry. Comparative dental studies of multiple sets, including triplets, quadruplets and the Dionne quintuplets with special reference to order of eruption of the teeth, growth of the dental arches and the development of malocclusion.

FORD, NORMA, and PENROSE, L. S. Study of possible linkage in the inheritance of hair colour and blood groups.

Under the direction of Professor Norma Ford

BOTT, Miss BARBARA. Disturbance of growth in dermal configurations associated with malocclusion.

INVERTEBRATE ZOOLOGY (INCLUDING ENTOMOLOGY)

WALKER, E. M. Exoskeleton and musculature of abdomen of Grylloblatta; nervous system of Grylloblatta; taxonomic and faunistic studies of Canadian Odonata.

Under the direction of Professor E. M. Walker

FOLLWELL, J. N. Rates of oviposition in normal laboratory and selectively bred preferred temperature lines of *Microplectron fuscipennis* Zett.

JUDD, W. W. Comparative study of the proventriculus of Orthoptera and related orders of insects.

LAMONT, Mrs. R. B. Life history and cytology of *Nebela collaris* Leidy; chromidia of *Amoebae testacea.*

NEAL, G. M. Taxonomic and ecological studies of Canadian rotifers, including a revision of the genus *Pedalia.*

NESBITT, H. H. J. Taxonomic revision of the Tyroglyphidae, a family of mites infesting stored grain.

OUGHTON, J. G. Distribution of the land snails of Ontario.

LIMNOLOGY

(Ontario Fisheries Research Laboratory, under the direction of Professor W. J. K. Harkness)

Three grants of $400 each were received from the National Committee on Fish Culture for the study of lake trout, forage fish, and stream insect populations in support of some of the work conducted in Algonquin Park. The Ontario Department of Game and Fisheries made a grant of $500 to assist the research.

HARKNESS, W. J. K. Life history of the American sturgeon; the game fishes of eastern North America.

Under the direction of Professor W. J. K. Harkness and Dr. F. E. J. Fry

HART, J. S. The circulation of blood in different species of fish and in the same or closely related species in Quebec, Pennsylvania, Tennessee, and Florida, on the basis of (1) stroke output of the heart, (2) influence of heart beat and blood pressure on stroke output; effect of CO_2 on the ability of fish to take up O_2 at different seasons, winter and spring, in Florida and Tennessee, under different environmental seasonal temperatures; effect of temperature on O_2 consumption of fish.

FRY, F. E. J. in collaboration with KENNEDY, W. A., assisted by TOVELL, H. M. M. and BANFIELD, A. W. F. The influence of fishing, introduction of hatchery raised stock, and other factors on the size and number of trout and bass in the lakes of Algonquin Park.

IDE, F. P. Availability of aquatic insects as food of the speckled trout (*Salvelinus fontinalis);* annual variation of insect population in Costello Creek, Algonquin Park.

Under the direction of Professor F. P. Ide

SPRULES, M. W. Factors affecting the distribution of aquatic insects in the Madawaska River system, Ontario.

DAVIES, D. M. Ecological taxonomic and cytological studies of black flies(Simuliidae).

LANGFORD, R. R. Improved sampling methods for comparative studies of the standing crop of plankton.

LANGFORD, R. R., assisted by SCOTT, W. B. The availability and rate of digestion of food of the perch in Algonquin Park lakes.

MAMMALIAN ANATOMY AND EMBRYOLOGY

BAILLIE, W. H. T. The part played in fixation and movement by the muscle groups of the anterior limb; abnormal development of the epiploic arteries; relation between reaction states and light stimuli.

Under the direction of Professor A. F. Coventry

IRONSIDE, A. The influence of temperature on reproduction and growth of *Peromyscus maniculatus gracilis* and *P. m. bairdii* (respectively northern and southern forms) and of a hybrid between them. Also lethal temperatures for these forms.

Marine Biology

Huntsman, A. G. Effect of high temperature on salmon; factors affecting distribution of salmon.

Under the direction of Professor A. G. Huntsman

Day, L. R. Life history of the eel (*Anguilla*).

White, H. C. (Fisheries Research Board of Canada). Sea life of the brook trout (*Salvelinus*); life history of *Lepeophtheirus salmonis;* spawning beds (redds) of salmon.

Elson, P. F. (Fisheries Research Board of Canada). Temperature and activity of brook trout; factors affecting survival of young salmon.

Faculty of Medicine

Anatomy

Under the direction of Professor J. C. B. Grant

Dr. A. W. Ham and Dr. K. Baldwin, in collaboration with Dr. H. Lucas of the Department of Pharmacology, have made an experimental investigation of the toxic action of certain war industry products, and have obtained information with regard to the early detection of their toxic action.

In collaboration with members of the Department of Physiology, histological studies have been made on the tissues of animals in certain types of shock. Some further tissue studies on diabetic animals have also been made with members of this department.

In collaboration with Dr. Gunther, of the Department of Pharmacology, histological studies have been made on the mammary glands of animals given certain placental hormones under varying conditions.

Dr. Ham has spent a considerable amount of time in the preparation and completion of a manuscript, with Miss Salter, of the Department of Psychology, of a book which it is hoped will serve as a useful guide for medical students.

Dr. C. G. Smith has continued his investigation of the olfactory apparatus. He finds that in man olfactory nerve fibres atrophy, on an average, at the rate of one per cent per annum; that is to say, at the age of 25 years, 25 per cent of olfactory nerve fibres are lost; at the age of 50 years, 50 per cent; and at the age of 75 years, 75 per cent.

Biochemistry

Under the direction of Professor Hardolph Wasteneys

Dr. J. Manery Fisher, with the assistance of Dr. E. Randell, has continued research on experimental shock in dogs collaborating with Dr. R. Haist and Miss J. F. Hamilton of the Department of Physiology. Particular attention has been paid to the water and electrolyte (sodium, potassium, and chloride) changes in blood and tissues in this condition.

In collaboration with Dr. K. C. Fisher of the Department of Zoology, further observations were made on the effects of salts on the water intake and "hardening" which occurs when fish eggs in continuously flowing citrated water entirely inhibited "hardening" for several days.

Under the direction of Professor A. M. Wynne

Miss Elizabeth A. Macpherson has continued the investigation of the properties and formation of the intestinal phosphatase of rats. The results of her studies were incorporated in a thesis for the Ph.D. degree.

Mr. Chao-wen Shen, Sino-British Fund Fellow, has examined the influence of several factors on the formation of phosphatase in yeast during its growth in synthetic media. He has also studied the influence of these and other factors on the activity of the enzyme *in vitro.*

Dr. Jules Tuba continued his investigations of yeast phosphatase. In May, 1942, he left the University to join the staff of the University of Alberta as lecturer in Biochemistry.

Under the direction of Professor L. Young

Mr. A. D. Barton has synthesized a number of monoaryl sulphates and has prepared their p-toluidine derivatives. He has established the value of p-toluidine as an agent for the characterization of monoaryl sulphates and has developed a simple procedure for the determination of the equivalent weights of the organic base salts of monoaryl sulphates.

Dr. L. H. Chang, Sino-British Fund Fellow, has continued his investigation of the absorption and metabolism of various carcinogenic and non-carcinogenic polycyclic hydrocarbons. He has shown that no parallelism exists between carcinogenic activity and the extent to which polycyclic hydrocarbons are absorbed. Dr. Chang has studied the urinary excretion of acid-decomposable hydrocarbon precursors and certain oxidation products of the polycyclic hydrocarbons.

Hitherto no general method has been available for the isolation of monoaryl sulphates from urine. Mr. D. H. Laughland has now developed such a method and has applied it successfully to the isolation of phenyl sulphate from the urine of animals dosed with phenol.

Mr. S. H. Zbarsky, under a grant from the Banting Research Foundation, has continued his study of the synthesis of S-substituted cysteine derivatives and mercapturic acids. He has synthesized a number of such compounds and has demonstrated the conversion of certain substituted cysteine derivatives to mercapturic acids in the animal body.

Dr. Leslie Young, assisted by Dr. B. F. Crocker, Mr. J. A. McCarter, Mr. M. Edson, and Miss G. E. Brackenbury, has been engaged in war research.

Hygiene and Preventive Medicine

Under the direction of Professor D. T. Fraser

Under grant of the National Research Council Dr. Hare, assisted by Dr. R. E. Willits and, on her departure, with Miss E. M. Clark, completed his studies on the aetiology of streptococcal infection of wounds, begun at the outbreak of the war and mentioned in the report of last year. These studies have now been published. It was shown that recently inflicted wounds do not have pathogenic strains of streptococci in them, but these microorganisms may reach the wound after infliction from a variety of sources of which the nasopharynx of the attendant or infections in a fellow patient in the same ward are the most important. Somewhat similar conclusions were reached in regard to the staphylococci. The work has been extended, along with the assistance of Dr. C. Sivertz of the University of Western Ontario, to the problem of finding a method of delaying the absorption of sulphonamides from wounds, thus prolonging the time of protection afforded. The results of this study have been submitted to the National Research Council. Dr. Hare and Miss Macmorine have worked out a method of reclaiming agar, the supply of which will be scant on account of the war.

Dr. Hare and Dr. Laurella McClelland have continued their studies on influenza viruses. The important observation was made that the red blood cells of the developing chick embryo when free in the allantoic fluid agglutinated in the presence of influenza A or B infection of the hen's egg. Practical application has been made of this phenomenon in the titration of the influenza virus and also in its concentration in the process of making a vaccine. Other studies on the isolation of virus from respiratory infection with the co-operation of Majors Hurst Brown and John Hamilton, have been pursued. Dr. Hare has also assisted

Dr. H. C. Bazett and Wing Commander Sifton on the effect of ultra-violet radiation on the incidence of respiratory infection.

Dr. Frieda Fraser has continued her work in the field of haemolytic streptococci. Cultures from 650 persons have been examined, yielding 220 group A strains, 98 per cent of which have been classified in 17 serological types. The incidence of particular types in various groups of persons is of important epidemiological interest and has been studied in relation to scarlet fever in the R.C.A.F. One particular agglutinative type has been associated, practically to the exclusion of all others, with scarlet fever in the Air Force, for over two years. Observations on carriers were made. Convalescents yielded positive cultures, of the original type harboured, up to 5 months from the onset of illness. The finding of prolonged survival of pathogenic strains on dried swabs and culture media may repay further investigation in relation to the transmission of infection. The results on the immunizing value of the intradermal use of tannic acid precipitated scarlet fever toxin carried on with the co-operation of Dr. L. A. Clarke, Department of Health, Hamilton, were encouraging.

Dr. Wishart has made a comparison of the antitoxin response to diphtheria toxoid given intradermally and subcutaneously in human volunteers. He is pursuing certain serological problems in typhus fever.

Dr. Helen Plummer has explored certain of the factors concerned with the production of potent botulinus toxin and of toxoid. She has also followed the response in persons of the armed forces to tetanus toxoid, particularly following the annual recall dose. The response is rapid and of a high order, 93 per cent had 1/10 of a unit of tetanus antitoxin or greater within 10-14 days after the recall dose, whereas only 28 per cent were at this level before the injection..

With the increase in the number of cases of diphtheria in Toronto the previous studies carried on by Dr. Donald Fraser in collaboration with Dr. A. B. Moffat of the Department of Health, Toronto, on carriers, conducted during the last 8 years have formed an interesting basis of comparison. Of 3,400 cultures from the school-children in 1942, 0.56 per cent showed the presence of virulent diphtheria bacilli, which is somewhat greater than ten times the rate in previous years, when diphtheria was not prevalent. No carriers were found in a total of 8,000 children examined in the years 1938-41 inclusive. Dr. Donald Fraser and Miss K. Halpern, in collaboration with Dr. Beverley Hannah of the Riverdale Isolation Hospital, examined the cultures from 80 cases and carriers, for type. The gravis and intermediate types were approximately numerically equal; only two cultures were of the mitis. In previous years, with the exception of 1940 and 1941, mitis type was overwhelmingly predominant.

Surgeon Lieut. R. J. Wilson has investigated the laboratory aspect of staphylococcus food poisoning epidemic in an outbreak of staphylococcus skin infection in young infants.

Dr. Moloney has completed a method of purification of tetanus toxoid. The purified material has proved of very practical value in the *in vitro* testing of tetanus antitoxin. This has resulted in the saving of many laboratory animals. The flocculation test for tetanus products has been further explored. A useful flocculating serum has been evolved.

Dr. Edith Taylor has achieved outstanding success in exploring the factors concerned in the development of diphtheria toxin of high potency.

Dr. E. Kuitunen-Ekbaum has become a member of the staff of the School of Hygiene, and although no longer a member of this department, her valuable assistance will be available in the teaching of parasitology. She has continued her work, initiated in the Department of Hygiene and Preventive Medicine, on enterobius, trichomonas vaginalis, and trichonosis infection.

Medicine

Under the direction of Professor Duncan Graham

For several years Drs. Campbell and Dauphinee, with the assistance of Miss Hanna, have been investigating the effect of disease on the serum-protein pattern. They have shown that a new protein, foreign to normal bloods, appears in the blood stream in infection and in various chronic diseases. The detection of this protein has proved of value in the diagnosis of certain conditions. The behaviour of this protein, a short method for its detection, and its relationship to other phenomena of disease were discussed at a recent meeting of the Association of American Physicians. A report of the work will be published shortly.

An investigation of methods for the detection of urobilin has led to the development of a more sensitive and reliable method for use in the study of liver and blood disorders.

In a rare condition known as Gaucher's disease, a fatty substance accumulates in the spleen, bone marrow, and other organs. This substance has been believed to be kerasin, a normal constituent of the brain, until last year when Deuel showed in a Gaucher's spleen examined by him that the carbohydrate fraction of this fatty substance differed from kerasin in that it contained glucose instead of galactose. Examination of the spleen from a case of Gaucher's disease by Dr. Campbell has confirmed Deuel's contention. This new finding alters our conception of the disease.

It has been known for a number of years that indoxyl compounds accumulate in the blood stream in uraemia, but little attention has been paid to this occurrence or its meaning, largely because of difficulties in their determination. Dr. Campbell has developed a new method for the detection of indoxyl compounds which is suitable for clinical use, and has isolated the substances responsible for the reaction from this test. As the test is roughly quantitative, it is now being used to study the relationship between the amount of indoxyl compound and the symptoms present in different cases of uraemia.

In connection with work on "Shock," Dr. Cleghorn, in association with Dr. Bonnycastle of the Department of Physiology, has made blood volume determinations on 100 normal dogs.

The results of chemical analysis of tissues in shock and in adrenal insufficiency, obtained by Mr. A. P. W. Clarke, Research Fellow in Medicine, showed that greatly different chemical changes in the tissues may be associated with an increase of potassium in the blood. The degree of this increase was not high enough to be lethal in itself. An increase in potassium is considered to be a contributing factor but not a cause of death from shock.

In a previous report, results in the treatment of patients suffering from Addison's disease with desoxycorticosterone acetate—a synthetic adrenal cortical hormone—were reported and the potency of this preparation compared with that of an aqueous extract of the adrenal cortex. Acetoxypregnenolone is the immediate precursor of desoxycorticosterone acetate in the synthetic production of the adrenal cortical hormone. In the past year an assay of acetoxypregnenolone has been conducted for cortin-like activities on adrenal-ectomized dogs. Careful test showed it to be less than one-fifth as active as desoxycorticosterone acetate, which indicates that it would not be an economical substitute.

Simultaneous plasma protein and plasma volume estimations were made in adrenalectomized dogs by Dr. Cleghorn and Miss Hanna in collaboration with Dr. J. K. W. Ferguson of the Department of Pharmacology. It was found that the concentration of plasma protein in adrenal insufficiency is much less than would be expected from the measured decrease in plasma volume. This is considered definite evidence of loculation or stasis of a large quantity of plasma in adrenal insufficiency, a condition previously suspected but difficult to demonstrate.

A study of the therapeutic and toxic effects of sulphadiazine has been made by Dr. K. J. R. Wightman, Fellow in Medicine. A report will be published shortly.

Dr. Wightman, in association with Dr. Greey, Bacteriologist to the Toronto General Hospital, has investigated the effect of sulphaguanidine in three typhoid carriers. The investigation showed that sulphaguanidine treatment does not affect the typhoid carrier state when foci of bacilli are present in the biliary system, but may be effective in cases in which removal of foci of bacilli by operation has failed to cure the condition.

Dr. Walters has reviewed the clinical findings in all cases of Parkinsonism admitted to the Toronto General Hospital over the two-year period 1940-1. A report of this study is in preparation for publication.

Medical Research

Under the direction of Dr. C. H. Best

The activities of this department for the past year may be discussed under three headings: (1) Aviation Medical Research, (2) Naval Medical Research, (3) Problems, most of which have a relationship to war medicine but are not definitely conducted in collaboration with the Royal Canadian Air Force or the Royal Canadian Navy.

Aviation medical research which was initiated and organized by the late Sir Frederick Banting, the first Director of this department, has continued to be a major activity. Professor H. C. Bazett, Professor of Physiology in the University of Pennsylvania, has remained with our department and directs the activities of the various members who devote their time entirely to this aspect of war medicine. The scope of these researches is very broad and a number of results with immediate practical application have been secured. The group works in close collaboration with the investigators at No. 1 Initial Training School, R.C.A.F., in Toronto and is supported in part by grants from the Associate Committee on Aviation Medical Research of the National Research Council of Canada and in part from departmental funds. Dr. Bazett, Mr. J. E. Goodwin, Miss Helen Brock, Miss Eleanor White, Miss M. M. Shaw, and Miss M. J. Millar are on departmental stipends.

The Naval Medical Research Unit, to which a number of the members of this department belong, has been discussed under the Department of Physiology. There has been very close collaboration between this group and Dr. Bazett's. As officially announced in Ottawa, the activities of this R.C.N. Research Unit have to do with research on selection of naval personnel, nutrition, improvements of living conditions on shipboard, seasickness, etc. These researches are supported by funds from the National Research Council of Canada, the R.C.N., and from this department and the Department of Physiology.

Dr. J. B. Bateman spent part of his time this year on Aviation Medical Research and is now spending his full time on Naval Medical Research.

Dr. D. A. Irwin and Mr. D. C. O'Connell have continued their investigation of the vole bacillus. As the vole bacillus grew slowly and sparsely on the best culture medium known, ways to stimulate the rate and amount of growth were studied. A culture medium was found that greatly enhanced the growth of the organism and made possible the animal experiments now under way necessary to determine the effect of vole vaccination on the resistance of animals to tuberculous infection. The financial aid given to this study by the Ontario Mining Association is gratefully acknowledged. Miss G. E. Speers has prepared the histological sections for the department.

Dr. Irwin has been engaged chiefly in war problems carried out in the department in co-operation with the National Research Council and Department

of National Defence. Dr. Irwin, Miss E. L. Mahon, and Miss F. F. Herbert have assisted in the work of the Toronto Blood Donor Clinic.

During the past year Dr. C. C. Lucas and Dr. J. M. R. Beveridge have continued to devote a considerable part of their time to several chemical problems connected with war medical research. They have enjoyed the valuable collaboration of Dr. H. M. Macrae of the Department of Ophthalmology in one of these investigations. Dr. Lucas and Dr. Beveridge, with the technical assistance of Miss M. O'Grady, have commenced some nutritional studies connected with the fatty liver problem. The nature of the protein in the basal diet has been investigated to see whether factors other than the methionine:cystine ratio affect the production of fatty livers in rats on a high-fat diet. An attempt is being made to prepare a diet free from these two amino acids, but adequate in all other respects. The chemotherapeutic studies which had been conducted by Dr. Lucas in collaboration with Dr. P. H. Greey of the Department of Pathology and Bacteriology for a period of about three and one-half years, were drawn to a conclusion during the year. Mr. C. Marchant who had been preparing compounds for this study left in the autumn to take a teaching post and Dr. C. von Seemann, another collaborator, turned his attention to other problems. While a large number of substituted sulphonamides had been prepared and tested *in vitro* and *in vivo*, none was better than products already on the market.

Dr. von Seemann and Dr. Lucas have done some further work on the fractionation of the ether-soluble portion of Royal jelly. They have had the collaboration of Mr. G. F. Townsend, Provincial Apiarist, who has confirmed the stimulating effect of whole (fresh) Royal jelly upon the rate of growth and egg-laying ability of fruit flies. Using these insects as test objects it has been shown that vacuum-drying of Royal jelly causes a loss of the activity. Fractions separated in this laboratory are assayed at Guelph by Mr. Townsend. Some of the inactive compounds have been separated in pure form and elucidation of their structure is being attempted.

Dr. von Seemann has also spent some time preparing substances related to 3,3, methylene-bis (4-hydroxycoumarin), the haemorrhagic agent responsible for the toxicity of spoiled sweet clover hay. The synthetic products have been studied by Dr. Jaques of the Department of Physiology, as possible drugs for controlling blood clotting. While their therapeutic value remains uncertain, these synthetic compounds are serving as useful tools in the study of the fundamental phenomena associated with the clotting of blood.

The support of the work of Dr. Lucas' group has come in large part from the Banting Research Foundation.

Mr. Charles McArthur, who has been supported in part by the Department of Pathological Chemistry, continued his chemical study of the atheromatosis plaques from human aortas. The examination of the lipoid fraction has been completed. The fatty material contains phospholipoids, free cholesterol and its esters, and only traces of glycerides.

A study of schizophrenia and other mental disorders, carried on jointly by this department and the Department of Psychiatry, is financed in part by the Rockefeller Foundation. Mr. Gordon Parkes is engaged full-time, and Mr. Goodwin part-time, in electroencephalographic studies of psychotic patients.

Dr. Bruno Mendel and Miss Dorothy Mundell (Banting Research Foundation Fellow) continued their work on cholinesterase. The properties of their highly purified preparations were studied and large amounts of the enzyme were prepared from pancreas for animal experiments. Miss F. Strelitz started work on the purification of blood cell cholinesterase.

Mr. N. R. Stephenson continued the investigation of the kinetics of histaminase, and the reaction catalysed by the enzyme. Work was started on the preparation of large quantities of histaminase for use in further studies of its purification. He has also been working on Naval Medical Research problems.

Paediatrics

Under the direction of Professor Alan Brown

Great interest has been evinced in medical and public health circles not only in Canada but also in the United States and Great Britain in our study of the effect of proper diet on the health of the pregnant woman and her offspring. This study has been carried out in co-operation with the Department of Obstetrics, University of Toronto, the Dietetic Department of the Toronto General Hospital, and the Visiting Homemakers' Association of Toronto. From the observations, most gratifying results were obtained in bettering the health of the pregnant woman in poor circumstances and that of her infant by the addition of simple food substances to the diet during pregnancy. Large-scale observations similar to those carried out in Toronto are now under way in both Great Britain and the United States.

In co-operation with the Connaught Laboratories, studies on the toxin of B. Pertussis and on the protective effect of Pertussis vaccines and sera are being carried out. Work is in progress on the influenza bacillus, type B.H., the strain responsible for B. influenzal meningitis, as regards incidence, growth, typing, and, in treatment, the effect of anti-serum and various chemotherapeutic agents.

In co-operation with the Department of Horticulture of the Ontario Agricultural College at Guelph, studies are continuing on the vitamin C, ascorbic acid, content of Ontario grown fruits and vegetables. Through the Ontario Department of Agriculture a conference was held last year with representatives of the canning companies producing canned tomatoes and tomato juices. The average ascorbic acid content of tomato juices canned in Canada subsequent to this conference has shown a gratifying increase. Differences in ascorbic acid content in different strains of fruits and vegetables have been shown. Attempts are under way to breed high vitamin C containing varieties. The rapid loss of vitamin C in green leafy vegetables during ordinary storage in retail stores has been demonstrated.

A comparison has been made of chemical and microbiochemical methods for the estimation of riboflavin. Using new extraction methods, including the use of digestive ferments which set free the combined riboflavin, good agreement has been found between the two methods of determination. A variety of foods, including cereals, vegetables, and cheese, has been assayed for their riboflavin content. Studies are being carried out on the effect in the rat of experimentally produced riboflavin deficiency. In the human, the incidence of riboflavin deficiency as determined by examination of the eye by means of the slit lamp and saturation tests is being determined. The increased need for ascorbic acid and riboflavin during acute illnesses is being studied by saturation observations. An investigation of methods for determination of the nicotinic acid content of foodstuffs is in progress.

In co-operation with the Dominion Departments of Agriculture and of National Health, studies have continued on the vitamin B complex content of Canadian wheats and the retention of this group of vitamins in white flour by various new milling procedures. The fruition of these experiments is the announcement by the Canadian Department of Pensions and National Health of "Canada Approved White Flour" and "Canada Approved White Bread."

Further observations on possible means for the prevention of cross infection in hospital wards have been made. The division of a ward into cubicles by partitions running up from the floor for a distance of 7 feet, the height of the ceiling being 10 feet, was found to be as effective in protecting the infants as were partitions extending from the floor to the ceiling. The placing of ultraviolet light barriers across the entrance to the cubicles with the complete partitions reduced the incidence of infection in this type of cubicle by 50 per cent. This type of cubicle equipped with ultraviolet barriers at the entrance would therefore appear

to be very effective in the prevention of cross infections. Ultraviolet lights suspended from the ceiling and reflected upwards were installed in one of the wards reserved for the care of premature infants. In comparison with a similar ward not equipped with ultraviolet lamps, the use of these lights decreased the incidence of cross infection by one-half. As a result of this observation it is proposed to install similar ultraviolet lights in all the premature rooms.

It will be seen from this report that attention has been directed not only to problems of interest to the Department of Paediatrics but also to problems of national importance. This department is officially co-operating with no less than five government departments at Ottawa, as well as the Department of Agriculture of the Province of Ontario.

Pathological Chemistry

Under the direction of Professor Andrew Hunter

The following is a partial list of research work undertaken during the year:

A. Hunter and C. E. Downs. (1) Effect of amino-acids, carbohydrates and other substances upon the activity of the enzyme arginase. (2) Measurements of the affinity of arginase for arginine, ornithine and lysine. (3) General theoretical studies of enzyme inhibitors.

A. Hunter and A. G. Gornall. The role of citrulline in the formation of urea in liver cells.

A. Hunter and F. I. Lewis (Department of Surgery). Chemical studies of perforated duodenal ulcers.

C. S. McArthur. The chemical composition of atheromatous plaques (with the co-operation of the Banting and Best Department of Medical Research).

T. F. Nicholson and R. E. Haist (Department of Physiological Hygiene). The effect of staphylococcus toxin on the insulin content of the pancreas of the rat.

T. F. Nicholson and E. J. MacMillan (Department of Bacteriology). Carbohydrate metabolism during staphylococcus infection in rabbits.

T. F. Nicholson and D. L. Selby. Kidney function in unilateral kidney damage. The effect of cyanide and fluoride.

Pathology and Bacteriology

Under the direction of Professor W. Boyd

Shortage of staff and consequent press of routine work and teaching have made investigation difficult. In the Autopsy division Dr. J. W. Stevenson and Dr. S. M. Hudecki have studied the problem of intestinal ulcers of uncertain etiology. Dr. C. E. Lindenfield has investigated the question of pigment occurring in cirrhosis of the liver.

In the division of Bacteriology Dr. R. M. Price has continued the determination of the types of tubercle bacilli infecting children under 14 years of age and for the first time has not found the bovine bacillus in any of the cases studied. This remarkable result in all probability is due to the widespread pasteurization of milk in the province. Further study of certain chromogenic acid fast bacilli isolated from man shows that they sensitize animals to tuberculin but do not produce gross lesions. Studies of avian tubercle bacilli from hogs have been carried out in some detail and the study of two strains of the vole bacillus is making progress.

Mrs. E. J. MacMillan in completing her requirements for a B.Sc. degree co-operated with Dr. T. F. Nicholson of the Department of Pathological Chemistry in the continuation of this combined study on Staphylococcus Infection and Carbohydrate Metabolism.

The search for chemotherapeutic compounds possessing marked antibacterial activity has been continued by Dr. P. H. Greey throughout the year. Two compounds have shown sufficient promise to warrant a more detailed experimental investigation. The effect on the intestinal flora of these new compounds has also been determined.

In the routine hospital laboratory a case of immunization to the M factor of human red blood cells was detected by Dr. Greey and Dr. S. Hanson. Studies on the Rh factor of red blood cells also are in progress.

In the division of Surgical Pathology, Dr. J. D. Duffin has completed his work on "Atrophy of the Adrenal Glands" commenced last year while on the autopsy service. He has made a further contribution in the way of a study of "Lipoid Storage Disease, with report of a case of the Gaucher type." Dr. O. C. MacIntosh has devised a new method for collecting sedimented cells from centrifuged specimens of pleuritic and other fluids on an aluminum button, and also a method for reclaiming old paraffin. These methods will be published in a journal of technical methods.

In the division of Neuropathology, the research activities were seriously reduced by having to work without a Fellow. Dr. A. F. Goggio's article on the "Mechanism of Contre-coup Injury" and Drs. W. L. Robinson and E. A. Linell's article on "Head Injuries and Meningitis" both appeared in the *Journal of Neurology and Psychiatry* for January, 1941. Dr. M. A. Ogryzlo has an article in the press of the *Archives of Neurology and Psychiatry* on "The Arnold-Chiari Malformation."

Professor Boyd has completed a new edition of his text-book on *Surgical Pathology*. He delivered addresses at Johns Hopkins University, George Washington University (St. Louis), and to the Congress on Medical Education and Licensure of the American Medical Association at Chicago.

Pharmacology

Under the direction of Professor V. E. Henderson

Professor V. E. Henderson, together with Dr. C. L. Yi, a Boxer Indemnity Fund Student, have almost completed a study of the pharmacology of respiration. The paper is now being written and will go to press in due course.

Professor G. H. W. Lucas has followed up some experimental work on the detection of strychnine in quantities which occur in medico-legal cases. This research has made substantial progress. He has also been engaged in a toxicity study which is a war effort and which has consumed a great deal of time.

Dr. D. D. Bonnycastle has completed his study of blood volume under anaesthesia and in co-operation with Dr. R. A. Cleghorn of the Department of Medicine has got material showing the distribution of normal blood volumes and red cell concentrations in normal dogs. This is a by-product from a research on shock, in which he combined with Dr. Cleghorn.

Mrs. M. O. Sweeten has almost completed a series of experiments on the toxicity of digitalis glucosides when administered at different rates.

Dr. Mavis Gunther, working under the Banting Research Foundation, is making a study of the lactation reflexes and mechanism. Progress in this research has been slow, partly owing to the difficulty in obtaining suitable animals and this, with the shortage of materials, has decreased the rate at which research could be carried forward in this department.

Physiology

Under the direction of Professor C. H. Best

Professor N. B. Taylor, with the assistance of Miss M. S. Moorhouse, has been engaged during the past year in a study of traumatic shock and in the use of isinglass (fish gelatin) for the treatment of haemorrhage and shock. This material promises to become a valuable substitute for blood in restoring the blood volume in these states. The results of a series of experiments upon its use in haemorrhage were published in association with Dr. E. T. Waters last July.

More recently a report upon its use in experimental traumatic shock has been submitted to the National Research Council, from which body Professor Taylor is in receipt of a grant for the prosecution of these researches.

Dr. S. B. Raska has been working in Professor Taylor's section upon the isolation of a hypotensive principle from rats' kidneys and upon the amine and amino acid oxidizing systems in the kidneys of hypertensive animals. He has also been engaged part-time in determining the fate of isinglass after injection and the effects of this transfusion material upon the plasma protein production following haemorrhage in dogs.

The facilities and personnel of the Section of Biophysics, under the direction of Dr. D. Y. Solandt, have been devoted almost entirely to research problems undertaken for the Royal Canadian Navy. In addition, Mr. John W. Dales has completed an investigation into the relationship between the time constants of various tissues and the effectiveness of different forms of electric currents when used to excite these tissues. The work on the functional characteristics of denervated muscle has been continued.

During the few months of the session spent in the department prior to obtaining leave of absence to join the Royal Canadian Air Force, Dr. Waters made a study of the relative merits of a solution of isinglass of fish origin and a solution of animal gelatin as possible substitutes for blood lost due to severe haemorrhage and possible shock. Dr. Waters believes that the results of this study show that animal gelatin is more efficacious in this regard than is isinglass because the latter substance when injected leaves the blood vessels so very readily, presumably because its molecular dimensions are too small. A number of dogs treated with solutions of gelatin were allowed to survive for some weeks after the injections. When examined at the end of this time the livers of those animals receiving large doses of gelatin showed histological evidence of some damage. This histological study was made in co-operation with Dr. M. T. C. Mitford. Dr. Mitford also studied the nature of the coagulation changes in the blood of rabbits in anaphylactic shock. It would appear that the prolongation of the clotting time of the blood of these animals in anaphylactic shock is due to the liberation of heparin, as happens in the blood of the dog during anaphylactic shock. However, the changes in the coagulation times and the amounts of heparin present in the blood of the rabbit during shock are very much smaller than those in the dog during anaphylactic shock.

With Miss H. J. Bell and Miss A. I. Jaffray, Dr. Haist has carried on some research on the factors affecting the insulin content of pancreas. The investigation of the effects of different diets has been extended and the effectiveness of dietary changes in the adrenalectomized rat has been tested. The effect of thyroidectomy is under study at present. Dr. Haist has collaborated with Dr. T. F. Nicholson of the Department of Pathological Chemistry, in a study of the insulin content of the pancreas in rats injected with staphylococcus toxin and rats infected with staphylococci.

Dr. Haist and Miss J. I. Hamilton have developed a method of producing secondary shock in dogs by the application of pressure to the limbs and studied the changes in blood pressure, blood cell volume, limb volumes, and plasma proteins. With Miss Bell, the carbohydrate changes in these animals are being followed; with Dr. E. Fidlar the changes in blood cells; with Dr. Jaques and Miss D. U. Dale the changes in the clotting system; with Dr. A. W. Ham of the Department of Anatomy, the histological changes; and with Dr. J. Manery Fisher and Dr. E. C. Randell of the Department of Biochemistry, the changes in potassium. Animals surviving after sublethal injury are under investigation at present. Miss Hamilton is studying renal function in these animals.

In work with Dr. Waters on the effect of injections of isinglass and gelatin upon blood platelets, Dr. Fidlar found that a sharp fall occurred within a few minutes after the injection, but the return of the count was so rapid as to make

it improbable that any serious complication would occur from this particular effect. Some dogs receiving frequent injections of moderate amounts showed an increased platelet count in about a week's time but this usually declined later to former levels. Counts made in animals used by Dr. Haist in experiments on shock showed a tendency for the platelets to fall relative to the red cells. The changes have not been sufficiently different from control animals, however, to admit the finding as significant. In experiments of Dr. Jaques and Miss Dale with dicoumarin, Dr. Fidlar found no abnormal platelet counts.

Dr. Jaques has continued his studies on the purification of heparin and on various aspects of the physiological action of this anticoagulant. With Dr. Arthur F. Charles of the Connaught Laboratories, he has developed a colorimetric method for the assay of heparin. With Miss Dale he has undertaken an investigation of the effect of hydroxycoumarin on the blood-clotting system. This material lowers the prothrombin content of the blood and these investigators have found that it prevents thrombosis as well as clotting. This fact establishes, for the first time, a clear-cut demonstration of the relationship between thrombosis and clotting.

Miss Dale has also spent some time doing prothrombin determinations in collaboration with Dr. Haist and his group. The changes in clotting time in shock were found to be due to a decrease in the fibrinogen and prothrombin content of blood. In shock it was also found that there was a definite increase in plasma thromboplastin.

Dr. Mitford, who last year worked with Dr. Waters in his investigations on the effect of gelatin in dogs, has completed some aspects of this work. More recently, with Dr. Jaques and Miss Dale, an ambitious programme of research on blood clotting has been undertaken. A grant has been made to this group by the John and Mary R. Markle Foundation.

Dr. James Campbell was able to carry out a small amount of work in continuation of his peace-time researches before joining the Royal Canadian Navy. He made some further studies on permanent diabetes in dogs and his findings throw further light on the action of insulin in the prevention of diabetes in animals. Many of these studies are of great promise and will be pursued vigorously when this type of research can be resumed. Dr. Campbell made some studies on so-called galactose diabetes in rats and did some further work with Mr. E. A. Ryan and Miss R. B. Durick on fat metabolism in dogs.

During the past eighteen months the Head of the Department and Dr. D. Y. Solandt have spent a large part of their time on problems of naval medical research. In June, 1941, they were given honorary rank in the Navy to facilitate their investigations and later were placed on active service. As the problems increased in number and as practical results began to be secured, and after consultation with the President and the Dean, a Naval Medical Research Unit responsible to the Medical Director General of the Royal Canadian Navy was set up in the Department of Physiology and in the Banting and Best Department of Medical Research. Somewhat later Lieutenant James Campbell and Sub-Lieutenant Campbell Cowan joined the group. More recently Mr. Dales of the Department of Physiology and Mr. N. R. Stephenson of the Banting and Best Department of Medical Research, have been granted commissions by the Navy and attached to this Research Unit. Surgeon Lieutenant Edward Sellers has recently been attached to this Unit for special duty. Naval medical problems have been studied at the various naval bases in Canada, in Newfoundland and in destroyers and corvettes at sea. Lieutenant Campbell and Sub-Lieutenant Cowan made various investigations on the Newfoundland-Iceland run while Surgeon Lieutenant Solandt and the Head of the Department made a further trip on a Royal Naval vessel to England, where a series of studies were made on behalf of the National Research Council of Canada and the Royal Canadian Navy. The exact nature of these researches cannot, of course, be disclosed, but

it may be stated that the facilities of the University have proved of very great value in many problems of naval medical research. Dr. W. G. E. Eggleton of the Henry Lester Institute for Medical Research in Shanghai, Dr. Ruth C. Partridge, Miss Durick, Miss M. L. Hawxhurst, and others have been spending a great deal of time on naval medical problems.

Psychiatry

Under the direction of Professor C. B. Farrar

The research work in this department continues to be carried out in collaboration with the Department of Medical Research under a grant from the Rockefeller Foundation, and incorporates clinical, physiological, and psychological investigation on various types of schizophrenic patients in an endeavour to observe and measure any related changes in these three divisions as the patient's psychosis changes. The clinical psychotic score is receiving mathematical treatment in an attempt to make this score still more objective. Insulin and electroshock therapy supplement routine hospital care. A preliminary report of some findings of this investigation appeared in the *American Journal of Psychiatry*, November, 1941. A further report which is being prepared for publication will probably suggest significant differences in the production of cerebral dysrhythmia depending upon the electrical mode of producing convulsive shock. Several cases of schizophrenia are under observation, in an endeavour to establish the relationship of environment to the onset of recurrent phases of the psychosis. A report on an exceptional case of prolonged coma is in preparation for publication. The improvement in a group of involutional melancholics and a group of catatonic schizophrenics following bilateral frontal leucotomies has been observed and is being followed. This latter work was done in conjunction with the Department of Neuro-Surgery under the direction of Dr. K. G. McKenzie. Further investigation into the carbohydrate abnormalities in schizophrenic patients is proceeding. Basal metabolic rate, respiratory quotient, intravenous and oral glucose tolerance, insulin tolerance and pyruvic acid tolerance tests, along with determinations of blood lactic acid and blood bisulphite binding substances, and phosphotase, before and after the various shock therapies, constitute the battery of observations in this project. Significant abnormalities have been found in the intravenous glucose tolerance tests and these findings will be set forth in a future publication. Dr. Roger Myers and Miss Elizabeth Gifford are preparing a report entitled "Measuring Abnormal Pattern on the Revised Stanford-Binet, Form L."

Surgery

Under the direction of Professor W. E. Gallie

Owing to the absence of all the younger members of the staff, the amount of research is necessarily much curtailed. During the year, however, members of the staff worked on a committee for the study of shock and on committees which are studying the treatment of burns and the treatment of wounds and compound fractures. These committees are working in conjunction with similar committees in other universities under the direction of the National Research Council, and it is hoped that the results will be of service to the armed forces.

Dr. Jessie Gray has conducted a series of experiments on the control of peritonitis by the use of sulfonamide drugs but the results are not yet apparent.

Dr. Angus McLachlin has made a study, in conjunction with Professor G. E. Richards, of the effect of exposure to *x*-ray on the healing of fractures. The result will be reported later. It has been pointed out recently that following *x*-ray and radium therapy for carcinoma of the cervix and of the prostate, spontaneous fracture of the neck of the femur is apt to occur. If this is so, it is

quite possible that prolonged exposure of fractures to *x*-ray during fluoroscopic examination or frequent exposures for *x*-ray photograph, may have some influence on the healing process.

Faculty of Applied Science and Engineering

The following researches have been in progress in the School of Engineering Research:

Applied Physics and Civil Engineering (Surveying and Geodesy)

Under the direction of Professor K. B. Jackson (with E. L. Dodington) and Professor W. M. Treadgold (with T. L. Rowe)

Work has been continued on research in aerial surveying. The equipment for producing an accurate relief model from a contour map has been completed; this comprises an optical system whereby precise reproductions of the map may be made to any scale, and a pantograph routing machine which cuts the relief model from solid plaster blocks to the scale of the map or its reproduction. The vertical scale of the model is optional. The accuracy of the model can be held to ± .005 in. in three directions. Maps have been enlarged 25 diameters and blocks 30 in. × 30 in. have been cut.

The primary purpose of the relief model is to provide a means of carrying out the complete process of aerial surveying on a model scale in the laboratory to illustrate and investigate the interrelation of cause and effect in various methods of photography and plotting, old and new. The particular advantage of this model scale method lies in the fact that all the variables are determinable, and that the photographic survey may be compared with the map from which the terrain was produced.

The routing machine may also be used to construct models for the study of power-sites and river control, and to produce accurate models of ships' hulls, sea-plane floats, propellers, etc., and the optical system may be used for the rectification of aerial photographs in mapping.

Work is progressing on the construction of the camera and camera carrier which provides the means of obtaining the "aerial" photographs. The completed model will be approximately 10×18 ft. representing 45 square miles of territory and "flying heights" up to 20,000 feet will be available.

Chemical Engineering

Under the direction of Professor J. W. Bain (with B. Marks and R. L. Greenhow)

The research on the oxidation of lignin has been continued and Mr. Greenhow (IV Yr.) has prepared a considerable amount of the products; time has not yet permitted their identification.

(with C. A. McKenzie and D. K. Jackson)

Researches on the phenomena of diffusion on the plates of a fractionating distillation column have been carried on during the session.

Under the direction of Professor M. C. Boswell
(with E. B. Trickey)

A study of the transformation of benzene into toluene has been continued. A report will be made to the National Research Council.

Under the direction of Professor E. A. Smith
(with M. Adelman)

Improvement of the drying properties of soya bean oil. A research on high

vacuum distillation of soya bean oil has been undertaken. Fractions were obtained that were fast drying.

(*with L. N. Stanners*)

The penetration of dyes in silk. As a result of this investigation we are now able to measure the micelle pore size in silk.

Under the direction of Professor R. R. McLaughlin and Dr. J. G. Breckenridge (*with W. G. MacElhinney*)

The war research problem carried out for the National Research Council, referred to in last year's report, has been continued throughout the session. Several reports have been submitted to the authorities at Ottawa, and the work is still in progress.

Mechanical Engineering

Under the direction of Professor R. W. Angus

Model Study of Flow in Tail Race of Hydro-Electric Plant. This refers to one of the largest hydro-electric plants in Canada, and enlargement became necessary due to war demands for power. A model was built and tests carried out under different conditions.

Efficiency of a Power Transmission and Motor. A very large industry engaged almost exclusively in war work had to use a somewhat unusual scheme for power transmission, and efficiencies had to be determined by tests.

Under the direction of Professor E. A. Allcut (*with W. Halina and G. H. D. Martin*)

The Structure and Properties of Heat Insulating Materials. The performances of various materials for insulating steam pipes and other hot surfaces, were observed on special apparatus, respectively 8 inches and 2 inches in diameter. The behaviour of several new materials was also investigated on a flat hot plate and some of the results were published in *Bulletin* No. 169 of the School of Engineering Research.

Metallurgical Engineering (Ceramics)

Under the direction of Professor R. J. Montgomery (*with F. H. Hartman*)

A research, supported by Hobbs Glass, Limited, of London, Ontario, has been commenced, on commercial glass batches, for a new plant which will be part of the war programme.

Faculty of Household Science

Food Chemistry

Under the direction of Professor C. C. Benson

There have been three students registered in this department for graduate work during this last session. One of these expects to continue work with us next year and a second has completed the work she had undertaken and has been granted the Master's degree.

This student has been making a study of methods for the estimation of chlorogenic acid and determining amounts of it in infusions of coffee prepared in different ways. In this connection, we are grateful for advice and assistance from Dr. Hermann Fischer who had isolated this acid.

Other research work is in progress in the department but the members of staff, due to work with large classes and changes necessarily made in instructors for these classes, have been able to do only a small amount of original work during the session.

Household Science

Under the direction of Professor J. B. Brodie

Miss B. V. R. Broadfoot has completed a partial analysis of the diets of low-income families in Toronto. Of the food constituents studied, calcium was most deficient with calories and protein next. Iron was more abundant than the other nutrients.

Miss B. F. Hollyman is also working on an analysis of the diets of low-income families in Toronto. This work will be continued next year.

Miss M. W. Foster is investigating the detersive efficiencies of neutral soaps in softened waters and commercially built soaps in natural water.

Faculty of Dentistry

Investigations by Dr. Harold K. Box have been continued on the etiology of dental caries based on the conception that the processes concerned in caries production and calculus formation are fundamentally antagonistic. It seemed obvious that any investigation into the nature and origin of dental calculus must embrace a study of developing calculus *in situ*, of well-made microscopic sections. Certain studies along these lines were carried out, and are in the publication stage.

Further studies *in vitro* on the protection afforded by fatty acid films and emulsions were continued in an attempt to determine the factors, favourable and unfavourable, that enter into the problem. These factors comprise the effects of various salts, their concentration, and reaction of the medium.

Microscopic studies were undertaken on the problem of cortical enamel. This was shown to be a fairly compact outer coating of enamel which provides a covering for the outer ends of the enamel prisms. It is composed of more or less homogeneous material and is comprised of overlapping terminal portions of bands of Retzius.

A new study on the lesion of the periodontal membrane known as pericementitis fibrosa was begun. This investigation at the present time tends to confirm the original pathological concept published previously.

Dr. Roy G. Ellis, also a member of the staff, has submitted a thesis on his study of "Electrodeposition and Its Application in Dentistry."

Dr. H. S. Austin, a graduate of 1939, has reported on his work on the "Innervation of the Dental Area with Special Reference to the Difficulties of Procuring Local Anaesthesia."

Dr. James Passalis who graduated in June, 1941, has investigated the "Vitality of Teeth Involved in Cysts."

Dr. M. S. N. Ginwalla, a graduate in Dentistry of the Nair College of Bombay and of McGill University, presented a thesis on "Primary Bone Tumors of the Jaw."

The Departments of Clinical and Preventive Dentistry have had under supervision for the last two years 108 boys under ten years of age of the "K" Club conducted by the Kiwanis Club, with the idea of controlling the incidence of caries in their teeth. Through the study conducted by Drs. Ellis, Cox, Kreutzer, and Miss Berry, the diet from a dental standpoint was considered deficient. The Club, therefore, furnished one balanced meal for the boys each day for three months.

Two graduates of this Faculty while visiting the Arctic during the summer of 1941 investigated the dental conditions of the Eskimo and Indians. Dr. R. J. Tickle proceeded up the eastern coast to Ellis Island, while Dr. W. A. Shand visited Aklavik in the northwestern Arctic.

The Board of Directors of the Royal College of Dental Surgeons of Ontario has again made a grant of $300 toward research, for which the Faculty is very grateful.

PUBLICATIONS

Faculty of Arts

Anthropology

Embree, J. F. *Acculturation among the Japanese of Kona, Hawaii* (Memoirs of the American Anthropological Association, no. 59). Menasha, Wisconsin: American Anthropological Association. 1941. Pp. 162.

———— "Some social functions of religion in rural Japan." (*American Journal of Sociology*, vol. 47, no. 2, Sept., 1941, pp. 184-9).

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McIlwraith, T. F. "Annual list of publications on ethnology, anthropology, and archaeology" (*Canadian Historical Review*, vol. 23, no. 1, March, 1942, pp. 111-19).

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Hay, G. E. "Finite displacements of thin rods" (*Transactions of the American Mathematical Society*, vol. 51, 1942, pp. 65-102).

Lin, C. C. "On the motion of vortices in two dimensions, I. Existence of the Kirchhoff-Routh function" (*Proceedings of the National Academy of Sciences*, vol. 27, 1941, pp. 570-5).

———— "On the motion of vortices in two dimensions, II. Some further investigations on the Kirchhoff-Routh function" (*Proceedings of the National Academy of Sciences*, vol. 27, 1941, pp. 575-7).

Synge, J. L. and Griffith, B. A. *Principles of mechanics*. New York: McGraw-Hill. 1942. Pp. xii, 514.

Wallace, P. R. "Relativistic equations of motion in electro-magnetic theory" (*American Journal of Mathematics*, vol. 63, 1941, pp. 729-40).

Weinstein, A. "On the decomposition of a Hilbert space by its harmonic subspace" (*American Journal of Mathematics*, vol. 63, 1941, pp. 615-18).

Archaeology

White, W. C. *Chinese Jews*. Part III—*Genealogical* (based upon a Chinese-Hebrew Codex from the K'aifeng Synagogue). Toronto: The University of Toronto Press. 1942. Pp. xiv, 230; 40 plates.

Astronomy

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———— "A semiregular variable in Messier 4" (*Communications of the D.D.O.*, no. 9).

———— "Some interesting variable stars in the Globular Cluster, Messier 56" (*Publications of the American Astronomical Society*, vol. 10, p. 233).

Young, R. K. "Aluminizing tank for the David Dunlap Observatory" (*Communications of the D.D.O.*, no. 8).

Botany

Bannan, M. W. "Wood structure of the native Ontario species of Juniperus" (*American Journal of Botany*, vol. 29, 1942, pp. 245-52).

———— "Wood structure of *Thuja occidentalis*" (*Botanical Gazette*, vol. 103, 1941, pp. 295-308).

CLENDENNING, K. A. "The respiratory and ripening behaviour of the tomato fruit on the plant" (*Canadian Journal of Research*, vol. C20, 1942, pp. 197-203).

——————— "Studies of the tomato in relation to its storage. II. The effects of altered internal atmosphere upon the respiratory and ripening behaviour of tomato fruits stored at 12.5°C." (*Canadian Journal of Research*, vol. C19, 1941, pp. 500-18).

COLEMAN, L. C. "The relation of chromocenters to the differential segments in *Rhoeo discolor* Hance" (*American Journal of Botany*, vol. 28, 1941, pp. 742-8).

HAMLY, D. H. "Color systems" (*Science*, n.s., vol. 94, 1941, p. 586).

——————— "Microscopic mensurations of fibrous materials" (*Engineering Journal*, Appendix I, Bull. no. 169, Nov., 1941).

——————— "A precision fine adjustment for standard microscopes" (*Science*, n. s., vol. 94, 1941, pp. 263-4).

——————— and PULLEN, P. F. "Dust quantitation by micro-projection and comparison counting" (*Canadian Institute of Mining and Metallurgy, Transactions*, vol. 45, 1942, pp. 140-53).

——————— and WATSON, J. H. L. "Potentialities of optical and electron microscopes" (*Transactions of the Royal Society of Canada*, sect. V, 1941, pp. 61-5).

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RICHARDSON, L. T. "A phytophthora tomato disease new to Ontario" (*Canadian Journal of Research*, vol. C19, 1941, pp. 446-83).

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REPORT OF THE REGISTRAR

I beg to submit the following statistics for the year ending June 30, 1942:

I. Distribution of the staff of the University and University College (furnished by the Bursar).

II. Distribution of the staffs of the federated Arts Colleges (furnished by the Registrars of the colleges).

III. Registration of students by faculties and years.

IV. Enrolment in the Arts Colleges (furnished by the Registrars of the colleges).

V. Enrolment in the University departments in Arts (furnished by the departments).

VI. Registration in courses in the Faculty of Arts.

VII. Registration in courses in the School of Graduate Studies (furnished by the Secretary of the School).

VIII. Results of annual examinations (furnished by the Secretaries of the faculties).

IX. Admission to degrees.

X. Admission to diplomas and certificates.

XI. Geographical distribution of students (furnished by the Secretaries of the faculties).

A. B. Fennell

I. DISTRIBUTION OF THE TEACHING STAFF OF THE UNIVERSITY AND UNIVERSITY COLLEGE

	Professors	Associate Professors	Assistant Professors	Associates	Lecturers	Directors	Instructors	Other Sessional Appointments
University (Faculty of Arts).....	60	33	39	..	57	..	9	129
University College.....	15*	6	11	..	7	..	..	4
Faculty of Medicine.....	23†	12	25‡	19	19†‡	..	..	218
Faculty of Applied Science.....	18	12	15	..	25	..	13	51
Faculty of Household Science....	2	..	3	..	5	..	1	7
Ontario College of Education....	6	4	7	..	25†	..	28	..
Faculty of Forestry.....	3	1	..	..	2	..	..	..
Faculty of Music.....	2	..	..	..	..	..	..	..
Faculty of Dentistry.....	8	11	1§	26	2	..	4	9
School of Law.....	2‖	1‖	1‖	..	3‖	..	..	..
School of Social Work.....	..	..	2	..	11	1	..	..
School of Nursing.....	..	..	..	..	5	1	..	..

*1 also in University
†1 also in Arts
‡1 also in Dentistry
§1 also in Medicine
‖also in Arts

The following on leave of absence for the duration of the war are included in the above schedule:

University (Faculty of Arts).....	14
Faculty of Medicine.....	76
Faculty of Applied Science.....	6
Ontario College of Education.....	2
Faculty of Dentistry.....	6

II. DISTRIBUTION OF THE STAFFS OF THE FEDERATED ARTS COLLEGES

	Victoria College	Trinity College	St. Michael's College
Professors.....	9	8†	15
Associate professors.....	8*	4	3
Assistant professors.....	3	..	..
Lecturers.....	14	12†	12
Instructors.....	1	..	..
Fellows.....	..	..	..
Readers.....	1	1	..

*Includes two on leave of absence for the duration of the war.
†Includes one on leave of absence for the duration of the war.

III. REGISTRATION OF STUDENTS

The students registered in the University, in colleges, faculties, and schools, in the session 1941-2 were distributed as follows:

				Men	Women	Total
Faculty of Arts				1,758	1,564	3,322
University College	444	530	974			
Victoria College	391	432	823			
Trinity College	186	194	380			
St. Michael's College	267	110	377			
University of Toronto	470	298	768			
Faculty of Medicine				773	71	844
Faculty of Applied Science and Engineering				1,139	10	1,149
Faculty of Household Science				...	50	50
Ontario College of Education				283	197	480
Faculty of Forestry				41	...	41
Faculty of Music				24	9	33
School of Graduate Studies				352	87	439
Faculty of Dentistry				253	26	279
School of Law				22	1	23
School of Physical and Health Education				16	72	88
School of Social Work				11	64	75
School of Nursing				..	150	150
Department of University Extension				35	194	229
Registered twice				2	2	4
GRAND TOTAL				4,705	2,493	7,198

The figures may be further analysed as follows:

Faculty of Arts

University College

	Men	Women	Total
First-year undergraduates	146	179	325
Second-year undergraduates	115	150	265
Third-year undergraduates	112	117	229
Fourth-year undergraduates	65	74	139
Occasional students	6	10	16
	444	530	974

Victoria College

	Men	Women	Tot a
First-year undergraduates	109	180	289
Second-year undergraduates	124	104	228
Third-year undergraduates	102	95	197
Fourth-year undergraduates	50	53	103
Occasional students	6	..	6
	391	432	823

Trinity College

	Men	Women	Total
First-year undergraduates	75	71	146
Second-year undergraduates	52	53	105
Third-year undergraduates	43	37	80
Fourth-year undergraduates	16	32	48
Occasional students	..	1	1
	186	194	380

St. Michael's College

	Men	Women	Total
First-year undergraduates	104	45	149
Second-year undergraduates	83	31	114
Third-year undergraduates	62	25	87
Fourth-year undergraduates	12	9	21
Occasional students	6	..	6
	267	110	377

University of Toronto

				Men	Women	Total
Pass Course for Teachers—						
Summer Session:				229	260	489
Regular students	92	147	239			
Occasional students	10	6	16			
Teachers' Classes:						
Regular students	153	132	285			
Occasional students	8	8	16			
Registered twice	34	33	67			
Occasional Students—						
Ontario College of Pharmacy, First year				95	12	107
Second year				71	8	79
College of Optometry				59	6	65
Other students				16	12	28
				470	298	768

Faculty of Medicine

	Men	Women	Total
First-year undergraduates	186	20	206
Second-year undergraduates	121	16	137
Third-year undergraduates	125	3	128
Fourth-year undergraduates	102	8	110
Fifth-year undergraduates	97	10	107
Sixth-year undergraduates	109	7	116
Candidates for Degree of B.Sc. (Med.)	1	1	2
Candidates for Diploma in Psychiatry	3	2	5
Candidates for Diploma in Public Health	22	1	23
Graduate students	4	1	5
Occasional students	3	2	5
	773	71	844

Faculty of Applied Science and Engineering

	Men	Women	Total
First-year undergraduates	472	..	472
Second-year undergraduates	257	4	261
Third-year undergraduates	231	4	235
Fourth-year undergraduates	177	2	179
Fifth-year undergraduates	2	..	2
	1,139	10	1,149

Faculty of Household Science

	Men	Women	Total
First-year undergraduates	...	4	4
Second-year undergraduates	...	17	17
Third-year undergraduates	...	24	24
Fourth-year undergraduates	...	4	4
Occasional student	...	1	1
	...	50	50

Ontario College of Education

	Men	Women	Total
*Teachers' Course	78	140	218
†Librarians' Course	3	29	32
Bachelor of Pedagogy Course	202	28	230
	283	197	480

Faculty of Forestry

	Men	Women	Total
First-year undergraduates	11	...	11
Second-year undergraduates	9	...	9
Third-year undergraduates	9	...	9
Fourth-year undergraduates	10	...	10
Occasional students	2	...	2
	41	...	41

Faculty of Music

	Men	Women	Total
First-year undergraduates	4	1	5
Second-year undergraduates	11	4	15
Third-year undergraduates	9	4	13
	24	9	33

School of Graduate Studies

	Men	Women	Total
Candidates for Degree of Ph.D	106	27	133
Candidates for Degree of M.A	108	30	138
Candidates for Degree of M.Com	4	...	4
Candidates for Degree of M.S	5	...	5
Candidates for Degree of M.A.Sc	6	...	6
Candidates for Degree of M.E	2	...	2
Candidate for Degree of Mech.E	1	...	1
Candidate for Degree of Chem.E	1	...	1
Candidates for Degree of D.Paed	32	2	34
Candidates for Degree of M.Sc. (Dent.)	2	...	2
Candidates for Degree of Mus.Doc	2	1	3
Candidates for Degree of M.S.A	12	...	12
Candidates for Degree of D.V.Sc	2	...	2
Graduate students	69	27	96
	352	87	439

Faculty of Dentistry

	Men	Women	Total
First-year undergraduates	40	2	42
Second-year undergraduates	70	...	70
Third-year undergraduates	45	3	48
Fourth-year undergraduates	54	...	54
Fifth-year undergraduates	39	1	40
Candidates for Degree of B.Sc. (Dent.)	2	...	2
Candidates for Diploma in Dental Nursing	...	20	20
Occasional students	3	...	3
	253	26	279

School of Law

	Men	Women	Total
Bachelor of Laws Course	16	1	17
Master of Laws Course	5	..	5
Occasional student	1	..	1
	22	1	23

*There were also 141 persons who were exempted from attendance and admitted to the final examinations.

†There were also 3 persons who were exempted from attendance and admitted to the final examinations.

School of Physical and Health Education

	Men	Women	Total
Degree Course:			
First-year undergraduates	12	23	35
Second-year undergraduates	4	10	14
Diploma Course:			
Third-year students	..	6	6
Fourth-year students	..	4	4
The Margaret Eaton School	..	29	29
	16	72	88

School of Social Work

	Men	Women	Total
First-year full-time students	6	29	35
Second-year full-time students	4	16	20
Part-time students	1	19	20
	11	64	75

*School of Nursing

	Men	Women	Total
Full-time students in General (Diploma) Course:			
First-year students	..	18	18
Second-year students	..	11	11
Third-year students	..	25	25
Full-time students in Graduate certificate courses:			
Public Health Nursing	..	53	53
Teaching and Supervision	..	29	29
Hospital Administration	..	2	2
Special Studies	..	2	2
Occasional students	..	10	10
	..	150	150

†Department of University Extension

	Men	Women	Total
Occupational Therapy:			
First-year students	..	49	49
Second-year students	..	59	59
Physiotherapy:			
First-year students	..	44	44
Second-year students	2	32	34
Occasional student	..	1	1
Aerial Navigation:			
Second-year students	8	..	8
Radio Technique	25	..	25
	35	185	220

*There were also 1,528 women enrolled for brief special or refresher courses.

†There were also 6,543 persons registered in courses and at provincial centres which are referred to in detail in the Report of the Director of University Extension and Publicity.

IV. ENROLMENT IN THE ARTS COLLEGES

University College

	English	Ethics	French	German	German (Sc.)	Greek	Greek and Roman History	Latin	Oriental History	Oriental Languages	Oriental Literature
First Year											
Pass	200	7	115	12	2	5	31	3	9	14	82
Honour	44	..	85	22	..	1	6	10	3	3	..
Second Year											
Pass	110	14	71	5	14	1	3	2	6	10	55
Honour	26	9	27	10	..	4	19	21	3	3	..
Third Year											
Pass	83	41	50	8	..	2	14	4	6	5	50
General	3	..	1	1	..	..	..	..	..	..	..
Honour	25	24	17	8	..	3	10	6	1	1	..
Fourth Year											
Pass	..	22	..	..	..	..	3	..	..	..	61
General	8	..	3	2	..	1	..	1	6	1	..
Honour	9	7	14	9	..	2	8	7	2	2	..
Totals											
Pass	393	84	236	25	16	8	51	9	21	29	248
General	11	..	4	3	..	1	..	1	6	1	..
Honour	104	40	143	49	..	10	43	44	9	9	..
Teachers' Classes	41	15	12	3	..	..	..	..	..	..	..
Graduate Studies	29	..	10	5	..	7	4	3	2	9	..
Other Faculties	82	..	73	92	..	..	..	..	..	..	..
Grand Total	660	139	478	177	16	26	98	57	38	48	248

Victoria College

	English	Ethics	French	German	German (Sc.)	Greek	Greek and Roman History	Latin	Oriental History	Oriental Languages	Religious Knowledge
First Year											
Pass	152	20	94	1	..	15	40	6	5	5	105
Honour	68	..	78	21	..	4	16	20	1	..	..
Second Year											
Pass	86	25	66	4	17	3	4	1	16	1	68
Honour	31	13	28	11	..	1	4	7	..	..	..
Third Year											
Pass	59	20	34	11	..	1	31	1	3	1	52
General	2	1	2	..	..	..	..	..	1	..	..
Honour	24	10	26	10	..	..	15	2	..	..	..
Fourth Year											
Pass	4	10	..	..	..	..	18	..	..	1	17
General	3	1	3	2	..	..	3	1	..	..	..
Honour	16	5	13	10	..	1	13	3	..	..	..
Totals											
Pass	301	75	194	16	17	19	93	8	24	8	242
General	5	2	5	2	..	..	3	1	1	..	..
Honour	139	28	145	52	..	6	48	32	1	..	..
Teachers' Classes	..	..	20	..	..	..	..	..	..	..	..
Graduate Studies	7	..	1	1	..	..	1	2	..	2	..
Grand Total	452	105	365	71	17	25	145	43	26	10	242

Trinity College

	English	Ethics	French	German	German (Sc.)	Greek	Greek and Roman History	Latin	Oriental History	Oriental Languages	Religious Knowledge
First Year											
Pass	54	10	63	3	..	2	8	1	..	4	89
Honour	33	..	42	11	..	4	6	6	3	..	..
Second Year											
Pass	42	12	34	5	4	..	1	1	..	9	73
Honour	17	..	11	5	..	1	1	2	..	..	..
Third Year											
Pass	34	13	23	1	..	2	..	1	..	2	56
General	1	..	..	..	..	..	..	..	..	..	..
Honour	7	..	5	1	..	3	9	5	..	..	..
Fourth Year											
Pass	..	..	..	..	..	..	..	..	..	..	36
General	5	1	2	1	..	..	..	..	..	..	..
Honour	10	3	6	1	..	..	..	..	..	..	..
Totals											
Pass	130	35	120	9	4	4	9	3	..	15	254
General	6	1	2	1	..	..	..	..	..	..	..
Honour	67	3	64	18	..	8	16	13	3	..	..
Grand Total	203	39	186	28	4	12	25	16	3	15	254

St. Michael's College

	English	Ethics	French	German	German (Sc.)	Greek	Greek and Roman History	Latin	Philosophy	Religious Knowledge
First Year										
Pass	69	67	50	3	1	5	12	41	53	53
Honour	22	..	25	3	..	4	6	15	19	40
Second Year										
Pass	43	67	43	2	3	1	..	31	35	67
Honour	11	6	10	..	..	4	..	6	6	23
Third Year										
Pass	48	49	42	2	..	2	..	25	30	58
Honour	9	3	3	..	..	..	..	1	3	13
Fourth Year										
Pass	..	..	..	..	..	..	..	..	..	13
Honour	8	3	5	..	..	1	..	3	3	..
Totals										
Pass	160	183	135	7	4	8	12	97	118	191
Honour	50	12	43	3	..	9	6	25	31	76
Grand Total	210	195	178	10	4	17	18	122	149	267

V. ENROLMENT IN THE UNIVERSITY DEPARTMENTS IN ARTS

Department of Anthropology

	Pass	Pass and Honour	Honour
Faculty of Arts			
First Year	210	..	25
Second Year	23	10	18
Third Year	4	..	..
Fourth Year	17	..	6
Faculty of Medicine			
First Year	..	52	..
School of Graduate Studies	..	1	..
Totals	254	63	49

Number of students registered—366

Department of Applied Mathematics

	Pass	Pass and Honour	Honour
Faculty of Arts			
First Year	3	..	..
Second Year	2	..	42
Third Year	2	..	26
Fourth Year	3	..	11
Occasional students	..	..	3
Faculty of Applied Science and Engineering			
Third Year	..	12	..
Fourth Year	..	12	..
School of Graduate Studies	..	..	16
Totals	10	24	98

Number of students registered—132

Department of Archaeology

	Pass	Honour
Faculty of Arts		
First Year	..	9
Second Year	67	22
Third Year	..	16
Fourth Year	..	8
Totals	67	55

Number of students registered—122

Department of Astronomy

	Pass	Pass and Honour	Honour	Laboratory
Faculty of Arts				
First Year	13	..	..	13
Second Year	3	17	33	3
Third Year	..	..	7	6
Miscellaneous				
Air Force Wing, C.O.T.C. (Navigation)	..	70	..	..
Totals	16	87	40	22

Number of students registered—143

Department of Botany

	Lecture Courses 1 or 2 or 3 hours		Laboratory Courses	
	Pass	Honour	Pass	Honour
Faculty of Arts				
First Year	12	116	12	116
Second Year	4	8	4	5
Third Year	9	5	8	5
Fourth Year	..	8	..	8
Faculty of Household Science				
First Year	..	15	..	15
Faculty of Forestry				
First Year	..	11	..	11
Fourth Year	..	10	..	10
School of Graduate Studies	..	44	..	32
Ontario College of Pharmacy				
First Year	..	107	..	107
Second Year	..	76	..	76
Totals	25	400	24	385

Number of students registered—425

Department of Chemistry

	Pass	Pass and Honour	Honour	Laboratory
Faculty of Arts				
First Year	161	..	163	245
Second Year	68	..	92	141
Third Year	39	..	22	61
Fourth Year	..	..	16	16
Teachers' Classes	23	..	..	23
Occasional Student	..	..	1	1
Faculty of Medicine				
First Year	..	205	..	205
Second Year	..	137	..	137
Faculty of Applied Science and Engineering				
First Year	..	151	..	151
Second Year	..	83	..	83
Third Year	..	95	..	95
Fourth Year	..	27	..	21
Faculty of Household Science				
First Year	..	4	..	4
Second Year	..	17	..	..
Faculty of Forestry				
First Year	..	10	..	10
Third Year	..	8	..	..
School of Graduate Studies	..	53	..	28
Faculty of Dentistry				
First Year	..	41	..	41
Second Year	..	70	..	..
Third Year	..	53	..	53
School of Physical and Health Education				
First Year	35	..	..	35
Second Year	14	..	..	..
Ontario College of Pharmacy				
First Year	..	106	..	106
Second Year	..	79	..	79
Department of University Extension				
Evening Classes	12	..	..	..
Totals	352	1,139	294	1,535

Number of students registered—1,785

Department of Chinese Studies

	Pass and Honour
Faculty of Arts	
First Year	9
Fourth Year	2
School of Graduate Studies	5
Totals	16

Number of students registered—16

Department of Fine Art

	Pass	Pass and Honour	Honour
Faculty of Arts			
First Year	32	..	9
Second Year	50	18	10
Third Year	40	29	12
Fourth Year	..	30	5
Occasional Students	4	..	..
Faculty of Applied Science and Engineering			
Third Year	9	..	..
Fourth Year	8	..	..
School of Graduate Studies	..	..	6
Totals	143	77	42

Number of students registered—262

Department of Food Chemistry
(Faculty of Household Science)

	Pass	Pass and Honour	Honour	Laboratory
Faculty of Arts				
Second Year	20	..	56	20
Third Year	25	..	..	25
Fourth Year	..	9	46	55
Faculty of Household Science				
Second Year	..	17	..	17
Third Year	20	..	..	20
Fourth Year	..	4	..	4
Occasional Student	1	..	..	1
School of Graduate Studies	..	..	3	3
Totals	66	30	105	145

Number of students registered—201

Department of Geography

	Pass	Pass and Honour	Honour	Laboratory
Faculty of Arts				
First Year	66	..	32	98
Second Year	71	7	18	66
Third Year	15	..	2	17
Ontario College of Education	191	..	..	..
School of Graduate Studies	..	..	123	..
Totals	343	7	175	181

Number of students registered—525

Department of Geology and Palaeontology

	Lecture Courses					Laboratory Courses	
	1 or 2 or 3 hours		4 or 5 or 6 hours		7 or more hours		
	Pass	Honour	Pass	Honour	Honour	Pass	Honour
Faculty of Arts							
First Year	70	57	..	..	..	..	..
Second Year	8	13	..	..	..	5	13
Third Year	9	2	..	..	..	9	..
Fourth Year	..	1	..	3	3	..	7
Teachers' Classes	40	..	..	..	..	40	..
Occasional Student	1	..	..	..	..	1	..
Faculty of Applied Science and Engineering							
Second Year	16	..	..	..	..	16	..
Third Year	47	..	5	..	..	52	..
Fourth Year	25	..	4	..	..	29	..
Faculty of Forestry							
Second Year	7	..	..	..	..	..	..
Third Year	9	..	..	..	..	9	..
School of Graduate Studies	..	6	..	11	..	..	17
Totals	232	79	9	14	3	161	37

Number of students registered—331

Department of History

	Lecture Courses			
	1 or 2 or 3 hours		4 or 5 or 6 hours	7 or more hours
	Pass	Honour	Honour	Honour
Faculty of Arts				
First Year	139	121	..	..
Second Year	70	77	..	25
Third Year	61	28	..	25
Fourth Year	18	..	2	16
Teachers' Classes	24	..	..	..
Occasional Students	3	1	..	..
Faculty of Medicine				
First Year	60	..	..	..
School of Graduate Studies	..	..	..	22
Totals	415	227	2	88

Number of students registered—732

Department of Household Science
(Faculty of Household Science)

	Pass	Pass and Honour	Honour	Laboratory
Faculty of Arts				
First Year	..	..	71	..
Second Year	13	..	54	67
Third Year	19	6	32	57
Fourth Year	..	7	46	53
Faculty of Household Science				
First Year	..	4	..	..
Second Year	..	16	..	16
Third Year	19	..	4	23
Fourth Year	..	..	4	4
School of Graduate Studies	..	..	6	2
Totals	51	33	217	222

Number of students registered—301

Department of Italian and Spanish

	Italian		Spanish	
	Pass	Honour	Pass	Honour
Faculty of Arts				
First Year	10	6	163	71
Second Year	3	8	42	27
Third Year	10	3	47	9
Fourth Year	..	5	..	12
School of Graduate Studies	..	1	..	3
Totals	23	23	252	122

Portuguese—6

Number of students registered—426

Department of Law
(School of Law)

	Pass	Honour
Faculty of Arts		
First Year	..	101
Second Year	55	17
Third Year	71	22
Fourth Year	..	8
Faculty of Applied Science and Engineering		
Third Year	16	..
Faculty of Forestry		
Third Year	4	..
School of Graduate Studies	..	5
School of Law		
Bachelor of Laws Course	..	16
Master of Laws Course	..	5
Occasional Student	..	1
College of Optometry of Ontario	26	..
Department of University Extension		
Business Certificate	35	..
Evening Classes	26	..
Totals	233	175

Number of students registered—408

Department of Mathematics

	Lecture Courses					
	1 or 2 or 3 hours		4 or 5 or 6 hours		7 or more hours	Laboratory Courses
	Pass	Honour	Pass	Honour	Honour	
Faculty of Arts						
First Year	54	..	..	65	48	..
Second Year	66	86	..	..	33	..
Third Year	28	29	..	5	10	..
Fourth Year	..	11	..	8	1	..
Occasional Students	2	1	..	1	..	..
Faculty of Applied Science and Engineering						
First Year	..	..	460	..	..	72
Second Year	195	..	22	..	..	35
Third Year	30	..	..	..	..	..
Faculty of Forestry						
First Year	11	..	..	..	..	..
School of Graduate Studies	..	5	..	8	1	..
College of Optometry of Ontario	23	..	..	..	..	..
Totals	409	132	482	87	93	107

Number of students registered—1,126

Department of Military Studies

	Pass	Honour
Faculty of Arts		
First Year	39	139
Second Year	32	76
Third Year	56	54
Fourth Year	35	34
Teachers' Classes	14	..
Faculty of Medicine		
First Year	3	..
Second Year	4	..
Third Year	6	..
Fourth, Fifth and Sixth Years	10	..
Faculty of Applied Science and Engineering		
First Year	17	..
Second Year	39	..
Third Year	76	..
Fourth Year	60	..
Fifth Year	1	..
Ontario College of Education	6	..
Faculty of Forestry		
Second Year	1	..
Third Year	5	..
Fourth Year	9	..
Faculty of Dentistry		
First Year	2	..
Second Year	10	..
Third Year	27	..
Fourth Year	33	..
Fifth Year	2	..
Occasional Student	1	
School of Physical and Health Education	3	..
Ontario College of Pharmacy		
First Year	2	..
Second Year	7	..
College of Optometry of Ontario	19	..
Department of University Extension		
Aerial Navigation	4	..
Totals	523	303

Number of students registered—826

Department of Mineralogy and Petrography

	Pass	Pass and Honour	Honour	Laboratory
Faculty of Arts				
First Year	14	..	..	14
Second Year	2	..	18	20
Third Year	..	..	5	..
Fourth Year	..	..	6	6
Teachers' Classes	44	..	..	44
Occasional Student	..	1	..	1
Faculty of Applied Science and Engineering				
First Year	..	165	..	165
Second Year	..	16	..	16
Third Year	..	26	..	26
Fourth Year	..	4	..	4
Faculty of Forestry				
Second Year	..	9	..	9
School of Graduate Studies	..	..	8	8
Totals	60	221	37	313

Number of students registered—318

Department of Music

	Lecture Courses 4 or 5 or 6 hours Honour
Faculty of Arts	
First Year	5
Second Year	4
Third Year	7
Fourth Year	8
Total	24

Number of students registered—24

Department of Philosophy

	Pass	Honour
Faculty of Arts		
First Year	72	131
Second Year	99	90
Third Year	168	69
Fourth Year	55	48
Teachers' Classes	15	..
Occasional Students	3	..
Faculty of Medicine		
First Year	18	..
School of Graduate Studies	..	72
School of Social Work		
First Year	16	..
Totals	446	410

Number of students registered—856

Department of Physics

	Pass	Pass and Honour	Honour	Laboratory
Faculty of Arts				
First Year	133	..	164	222
Second Year	55	..	55	106
Third Year	39	4	33	72
Fourth Year	..	1	20	15
Faculty of Medicine				
First Year	..	203	..	202
Second Year	..	1	..	1
Diploma in Radiology	..	3	..	3
Faculty of Applied Science and Engineering				
First Year	..	..	36	36
Second Year	..	..	22	22
Third Year	..	..	12	12
Fourth Year	..	..	13	13
Faculty of Household Science				
First Year	..	..	4	4
Second Year	..	..	10	10
Fourth Year	..	..	2	2
Faculty of Forestry				
First Year	10	..	..	10
School of Graduate Studies	..	..	27	10
Faculty of Dentistry				
First Year	..	41	..	41
School of Physical and Health Education	35	..	..	35
Department of University Extension				
Aerial Navigation	9	..	..	9
Physiotherapy	39	..	..	39
Radio Technique	32	..	..	32
Radio Class, May 26-June 30	60	..	..	60
College of Optometry of Ontario	..	48	..	48
Miscellaneous				
Naval Ratings				
Class No. 2 (July 1-Aug. 16)	60	..	..	60
Class No. 3 (Aug. 25-Nov. 21)	68	..	..	68
Class No. 4 (Dec. 8-Mar. 13)	78	..	..	78
Class No. 5 (Mar. 23-June 13)	76	..	..	76
Naval Officers (Apr. 28-June 27)	..	..	30	30
R.C.A.F. Radio Technicians Course				
Class No. 1 July, Aug., 1941	500	..	..	500
Class No. 1A (holdovers) Sept. 15	152	..	..	152
Class No. 2 entered Sept. 22 (16 weeks)	151	..	..	151
Class No. 3 entered Nov. 17 (16 weeks)	151	..	..	151
Class No. 4 entered Jan., 1942 (16 weeks)	171	..	..	171
Class No. 5 entered Mar. 16 (16 weeks)	177	..	..	177
Class No. 6 entered May 18 (16 weeks)	180	..	..	180
Totals	2,176	301	428	2,798

Number of students registered—2,905.

Department of Political Economy

	Lecture Courses				
	1 or 2 or 3 hours		4 or 5 or 6 hours		7 or more hours
	Pass	Honour	Pass	Honour	Honour
Faculty of Arts					
First Year	188	72	32	106	..
Second Year	117	39	25	12	78
Third Year	80	54	26	..	67
Fourth Year	46	29	..	20	66
Teachers' Classes	51	..	..	..	..
Occasional Students	2	1	2	..	1
Faculty of Applied Science and Engineering					
Second Year	250	..	..	..	..
Faculty of Household Science					
Second Year	3	..	..	..	..
Third Year	14	..	..	..	..
Faculty of Forestry					
Third Year	7	..	..	..	..
School of Graduate Studies	..	12	..	2	7
School of Social Work					
First Year	..	34	..	..	..
Second Year	..	60	..	..	..
College of Optometry of Ontario	21	..	..	..	..
Department of University Extension					
Certificate Course in Business	48	..	..	..	..
Workers' Educational Association	110	..	..	..	..
Totals	937	301	85	140	219

Number of students registered—1,683

Department of Psychology

	Lecture Courses				Laboratory Courses	
	1 or 2 or 3 hours		4 or 5 or 6 hours	7 or more hours		
	Pass	Honour	Honour	Honour	Pass	Honour
Faculty of Arts						
First Year	137	45	..	..	..	..
Second Year	141	23	..	14	141	25
Third Year	134	17	..	3	..	7
Fourth Year	..	70	..	6	..	6
Teachers' Classes	160	..	..	..	35	..
Occasional Students	4	..	..	..	..	..
Faculty of Medicine						
Second Year	137	..	..	..	..	..
Third Year	5	..	..	..	..	..
Fourth Year	18	..	..	..	..	..
Faculty of Household Science						
First, Second, and Third Years	27	..	..	..	..	..
Fourth Year	..	2	..	..	..	..
School of Graduate Studies	..	9	6	10	..	10
School of Physical and Health Education						
First Year	31	..	..	..	..	..
Second Year	14	..	..	..	..	..
School of Social Work						
First Year	12	..	..	..	..	..
Second Year	6	..	..	..	..	..
School of Nursing	44	..	..	..	..	..
Department of University Extension						
Occupational Therapy	50	..	..	..	..	..
Physiotherapy	45	..	..	..	..	..
Centralized Pupil Nurses	210	..	..	..	..	..
Evening Classes	205	..	..	..	..	..
College of Optometry of Ontario	42	..	..	..	17	..
Totals	1,422	166	6	33	193	48

Number of students registered—1,627

Department of Zoology

	Lecture Courses			Laboratory Courses	
	1 or 2 or 3 hours		4 or 5 or 6 hours		
	Pass	Honour	Honour	Pass	Honour
Faculty of Arts					
First Year	169	118	..	94	118
Second Year	77	71	15	77	85
Third Year	76	12	4	70	8
Fourth Year	11	2	..	..	7
Teachers' Classes	57	..	..	57	..
Occasional Students	1	2	..	1	2
Faculty of Medicine					
First Year	..	210	..	..	210
Faculty of Household Science					
First Year	6	..	..	6	..
Faculty of Forestry					
First Year	..	10	..	..	10
Second Year	..	11	..	..	..
Fourth Year	..	10	..	..	10
School of Graduate Studies	..	..	..	..	43
Faculty of Dentistry					
First Year	..	43	..	..	43
School of Physical and Health Education	35	..	..	35	..
School of Nursing	21	..	..	21	..
College of Optometry of Ontario	..	24	..	..	24
Totals	453	513	19	361	561

Number of students registered—1,031

VI. REGISTRATION IN COURSES IN THE FACULTY OF ARTS

Courses	First Year				Second Year				Third Year				Fourth Year				Totals
	UC	VC	TC	MC	UC	VC	TC	MC	UC	VC	TC	MC	UC	VC	TC	MC	
Pass	121	111	58	98	110	86	40	82	95	67	40	70	...	...	...	...	978
General	...	...	...	...	...	...	...	...	9	11	4	1	18	11	8	1	63
Classics	1	4	3	3	4	1	1	4	3	...	3	...	1	1	...	1	30
English Language and Literature	18	26	7	9	13	15	6	3	13	18	3	1	11	8	5	3	159
Greek and Hebrew	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	2
Latin (French or Greek Option), Div. I	2	3	1	3	...	2	...	...	...	1	1	...	...	2	...	2	17
Latin and English	...	5	...	1	...	2	...	...	...	...	...	...	...	...	...	...	8
Modern Languages	17	19	11	5	14	11	5	7	12	9	2	1	10	10	2	2	137
Oriental Languages	1	...	...	...	3	...	...	...	...	...	...	...	2	...	...	...	6
Fine Art	5	1	3	...	4	5	2	1	6	2	1	1	1	2	2	...	36
Law	13	8	7	2	10	6	...	...	12	4	3	...	5	3	...	...	78
Social and Philosophical Studies	36	29	25	7	...	...	...	...	...	...	...	...	...	...	...	...	97
Modern History	...	...	...	...	10	11	4	1	8	14	5	1	6	10	5	...	75
Music	2	3	...	...	1	2	...	1	2	4	...	1	3	3	2	...	24
Philosophy	...	...	...	...	2	1	...	2	1	...	...	1	2	2	2	3	16
Philosophy (English or History Option)	4	3	1	3	...	4	3	1	3	2	...	2	1	2	1	...	30
Political Science and Economics	...	...	...	...	4	3	7	1	7	8	2	...	4	4	1	...	41
Psychology	...	...	...	...	10	4	1	...	3	...	...	...	4	...	2	...	24
Sociology	...	...	...	...	3	8	1	...	7	8	1	...	4	5	2	...	39
Mathematics and Physics, Div. I Mathematics and Physics, Div. II Mathematics and Physics, Div. III Mathematics and Physics, Div. III—(Special Radio) Mathematics and Physics, Div. IV	28	15	2	3	17	12	3	1	6 2	5 3	... ...	... 1	... 1 2 1 ...	1 1 2 1 ...	... ... 1 ...	... ...	108
Physics and Chemistry	...	...	...	...	1	6	2	...	8	2	...	...	4	...	...	...	23
Science	18	15	6	6	...	...	...	...	...	...	...	...	...	...	...	...	45
Biology	...	...	...	...	1	1	1	...	2	2	...	...	1	2	2	...	12
Biology and Physics	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
Chemistry	...	...	...	...	6	6	...	2	7	2	...	1	2	1	2	3	32
Chemistry, Mineralogy and Geology, Div. I Chemistry, Mineralogy and Geology, Div. II	...	...	...	...	2	2	...	...	... ...	... ...	... ...	... ...	3 3	... ...	... ...	... ...	10
Geology and Mineralogy	...	...	...	...	...	1	...	...	...	...	...	...	...	3	...	...	4
Household Economics	29	33	6	3	20	18	13	4	11	16	4	2	26	12	6	2	205
Physiology and Biochemistry	...	...	...	...	4	...	1	1	3	...	...	...	2	1	...	...	12
Geography	...	...	...	...	2	...	1	...	1	1	...	...	...	...	...	...	5
Commerce and Finance	25	15	16	6	24	22	14	3	7	17	11	4	22	16	5	4	211
Duplicates	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	3
Totals	325	289	146	149	265	228	105	114	229	197	80	87	139	103	48	21	2,525

VII. REGISTRATION IN COURSES IN THE SCHOOL OF GRADUATE STUDIES

Department	Ph.D.	M.A.	M. Com.	M.S.	M.A.Sc.	M.E.	Mech. E.	Chem. E.	D.Paed.	Mus. Doc.	M.Sc.(Dent.)	M.S.A.	D.V.Sc.	Grad. Stud.
Anthropology	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Applied Mathematics	1	..	..	..	..	..	..	..	..	..	..	..	..	2
Biochemistry	6	4	..	..	..	..	..	..	..	..	..	..	..	3
Botany	15	1	..	..	..	..	..	..	..	..	..	2	..	1
Chemistry	16	14	..	..	..	..	..	..	..	..	..	1	..	5
Chemical Engineering	2	..	..	..	1	..	..	..	..	..	..	..	..	2
Chinese Archaeology	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Civil Engineering	..	..	..	..	3	..	..	..	..	..	..	..	..	..
Classics	2	5	..	..	..	..	..	..	..	..	..	..	..	3
Dentistry	..	..	..	..	..	..	..	..	..	..	2	..	..	..
Educational Theory	3	3	..	..	..	..	..	..	..	..	..	..	..	1
English	9	10	..	..	..	..	..	..	..	..	..	..	..	10
Epidemiology and Biometrics	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Fine Art	..	..	..	..	..	..	..	..	..	..	..	..	..	5
Food Chemistry	..	2	..	..	..	..	..	..	..	..	..	..	..	..
Geography	2	3	..	..	..	..	..	..	..	..	..	..	..	..
Geology and Palaeontology	5	5	..	..	..	..	..	..	..	..	..	..	..	2
Germanic Languages	..	5	..	..	..	..	..	..	..	..	..	..	..	2
History	2	9	..	..	..	..	..	..	..	..	..	..	..	10
Household Science	..	2	..	..	..	..	..	..	..	..	..	..	..	3
Hygiene and Preventive Medicine	..	1	..	..	..	..	..	..	..	..	..	2	..	1
Law	..	2	..	..	..	..	..	..	..	..	..	..	..	..
Mathematics	3	6	..	..	..	..	..	..	..	..	..	..	..	1
Mineralogy	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Mining Engineering	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Music	1	..	..	..	..	..	..	..	..	3	..	..	..	..
Pathology and Bacteriology	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Pathological Chemistry	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Pedagogy	..	..	..	..	..	..	..	..	34	..	..	..	..	..
Pharmacology	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Philosophy	20	28	..	..	..	..	..	..	..	..	..	..	..	9
Physics	3	5	..	..	..	..	..	..	..	..	..	..	..	4
Physiology	1	4	..	..	..	..	..	..	..	..	..	..	..	3
Physiological Hygiene	2	..	..	..	..	..	..	..	..	..	..	..	..	1
Political Science	1	17	4	..	..	..	..	..	..	..	..	2	..	7
Professional Degrees	..	..	..	..	..	2	1	1	..	..	..	..	..	..
Psychology	5	6	..	..	..	..	..	..	..	..	..	..	..	6
Romance Languages	6	..	..	..	..	..	..	..	..	..	..	..	..	9
Semitic Languages	4	2	..	..	..	..	..	..	..	..	..	..	..	2
Surgery	..	..	..	5	..	..	..	..	..	..	..	..	..	..
Veterinary Science	..	..	..	..	..	..	..	..	..	..	..	..	2	..
Zoology	15	4	..	..	..	..	..	..	..	..	..	4	..	..
Special Committees	2	..	..	..	1	..	..	..	..	..	..	1	..	2
Totals	133	138	4	5	6	2	1	1	34	3	2	12	2	97

VIII. RESULTS OF THE ANNUAL EXAMINATIONS

Faculty of Arts

First Year

Course	University of Toronto	University College	Victoria College	Trinity College	St. Michael's College	TOTALS	Passed	Conditioned	Failed	Transferred	Aegrotat	Active Service
Pass	..	118	101	49	92	360	227	85	48	..	3	2
Supplementals	..	19	17	5	11	52	38	14	..	..	..	1
Classics	..	1	3	3	3	10	10	..	..	..	..	..
English Language and Literature	..	17	24	7	9	57	48	9	..	1	..	..
Greek and Hebrew	..	1	..	..	..	1	1	..	..	..	..	..
Latin and English	..	..	5	..	1	6	4	1	1	1	..	..
Latin (French or Greek Option)	..	2	3	1	3	9	7	1	1	..	..	..
Modern Languages	..	15	17	11	6	49	41	6	2	3	1	..
Oriental Languages	..	1	..	..	..	1	1	..	..	..	..	..
Fine Art	..	5	1	3	..	9	7	1	1	1	..	..
Law	..	18	8	6	2	34	28	4	2	3	1	1
Social and Philosophical Studies	..	35	28	23	7	93	77	9	7	10	2	..
Music	..	2	3	..	..	5	4	..	1	1	1	..
Philosophy (English or History Option)	..	4	3	1	2	10	9	1	..	..	1	..
Mathematics and Physics	..	28	15	2	3	48	25	7	16	3	..	1
Science	..	17	13	7	6	43	32	5	6	7	..	..
Household Economics	..	28	33	6	3	70	43	18	9	9	..	..
Commerce and Finance	..	28	14	13	5	55	46	5	4	4	1	1
Occasional Students	2	6	4	..	2	14	13	..	1	..	..	..
Totals	2	340	292	137	155	926	661	166	99	43	10	6

Second Year

Course	University of Toronto	University College	Victoria College	Trinity College	St. Michael's College	TOTALS	Passed	Conditioned	Failed	Aegrotat	Active Service
Pass	..	104	83	38	80	305	222	56	27	7	2
Supplementals	..	10	9	10	13	42	39	3	..	1	10
Classics	..	4	1	1	4	10	10	..	..	..	..
English Language and Literature	..	13	14	6	3	36	28	2	6	..	..
Latin and English	..	..	2	..	..	2	2	..	..	..	..
Latin (French or Greek Option), Div. I	..	..	2	..	..	2	1	..	1	..	..
Modern Languages	..	14	11	5	7	37	32	2	3	1	..
Fine Art	..	4	5	2	1	12	11	1	..	..	1
Law	..	10	6	..	..	16	15	..	1	..	..
Modern History	..	10	10	4	1	25	19	2	4	..	..
Music	..	1	2	..	1	4	4	..	..	..	..
Philosophy	..	2	1	..	2	5	5	..	..	..	..
Philosophy (English or History Option)	..	..	3	3	1	7	5	2	..	..	..
Political Science and Economics	..	4	3	7	1	15	12	..	3	..	..
Psychology	..	10	3	1	..	14	12	..	2	..	..
Sociology	..	2	5	1	..	8	7	..	1	..	..
Mathematics and Physics	..	17	12	3	2	34	24	2	8	..	1
Physics and Chemistry	..	1	6	2	..	9	4	4	1	..	..
Biology	..	1	1	1	..	3	1	1	1	1	..
Chemistry	..	4	7	..	2	13	7	..	6	..	..
Chemistry, Mineralogy and Geology	..	2	2	..	..	4	2	1	1	1	1
Geography	..	2	..	1	..	3	3	..	..	..	..
Household Economics	..	20	18	13	2	53	34	4	15	..	..
Physiology and Biochemistry	..	4	..	1	1	6	3	..	3	..	..
Commerce and Finance	..	24	22	10	1	57	31	10	16	2	..
Occasional Students	4	2	..	..	1	7	7	..	..	..	..
Totals	4	268	228	109	123	732	543	90	99	13	15

Third Year

Course	University of Toronto	University College	Victoria College	Trinity College	St. Michael's College	TOTALS	Passed	Conditioned	Failed	Aegrotat	Active Service, etc.
Pass	..	97	67	44	70	278	250	17	11	3	32
Supplementals	..	8	1	..	2	11	10	1	..	..	4
General	..	9	10	4	1	24	22	..	2	..	..
Classics	..	3	..	3	..	6	6	..	..	1	..
English Language and Literature	..	13	18	3	1	35	35	..	..	..	..
Greek and Hebrew	..	1	..	..	..	1	1	..	..	..	..
Latin (French or Greek Option), Div. I	..	..	1	1	..	2	2	..	..	..	..
Modern Languages	..	10	9	2	1	22	21	1	..	..	..
Fine Art	..	6	2	1	1	10	10	..	..	..	..
Law	..	11	5	3	..	19	18	1	..	..	..
Modern History	..	7	13	4	1	25	24	..	1	..	..
Music	..	2	4	..	1	7	7	..	..	..	..
Philosophy	..	..	..	..	1	1	1	..	..	..	..
Philosophy (English or History Option)	..	3	2	..	2	7	5	..	2	..	..
Political Science and Economics	..	7	8	2	..	17	15	1	1	..	1
Psychology	..	3	..	..	..	3	3	..	..	..	..
Sociology	..	7	8	1	..	16	15	..	1	1	..
Mathematics and Physics, Divs. I & II	..	6	5	..	..	11	10	..	1	..	..
Mathematics and Physics, Divs. III & IV	..	2	3	..	1	6	5	..	1	..	..
Physics and Chemistry	..	8	2	..	..	10	5	1	4	..	..
Biology	..	2	2	..	..	4	4	..	..	1	..
Biology and Physics	..	..	1	..	..	1	1	..	..	..	..
Chemistry	..	6	2	..	1	9	3	1	5	..	..
Geography	..	1	1	..	..	2	2	..	..	..	..
Household Economics	..	11	15	4	2	32	26	3	3	..	..
Physiology and Biochemistry	..	3	..	..	..	3	3	..	..	..	..
Commerce and Finance	..	7	17	11	3	38	35	3	..	1	4
Occasional Students	2	2	4	..	2	10	10	..	..	..	..
Totals	2	235	200	83	90	610	549	29	32	7	41

Fourth Year

Course	University of Toronto	University College	Victoria College	Trinity College	St. Michael's College	TOTALS	Passed	Conditioned	Failed	Aegrotat	Degree without Honours	Active Service
General	..	18	11	8	1	38	38	..	..	1	..	4
Classics	..	1	1	..	1	3	3	..	..	..	1	..
English Language and Literature	..	11	8	5	3	27	27	..	..	..	..	1
Latin (French or Greek Option), Div. I	..	..	3	..	2	5	5	..	..	..	..	2
Modern Languages	..	9	10	3	2	24	24	..	..	..	..	2
Oriental Languages	..	2	..	..	..	2	2	..	..	..	..	1
Fine Art	..	1	2	2	..	5	5	..	..	..	..	..
Law	..	5	4	1	..	10	10	..	..	..	..	6
Modern History	..	6	9	5	..	20	20	..	..	1	..	2
Music	..	3	3	2	..	8	8	..	..	1	..	2
Philosophy	..	1	2	2	3	8	6	2	..	..	..	..
Philosophy (English or History Option)	..	1	3	1	..	5	5	..	..	..	..	2
Political Science and Economics	..	4	4	1	..	9	9	..	..	..	..	1
Psychology	..	4	..	2	..	6	6	..	..	..	..	1
Sociology	..	4	5	2	..	11	11	..	..	..	..	..
Mathematics and Physics, Div. I	..	..	3	..	..	3	3	..	..	..	..	3
Mathematics and Physics, Div. II	..	1	1	..	..	2	2	..	..	..	..	2
Mathematics and Physics, Div. III	..	2	1	..	..	3	2	1	..	..	..	1
Mathematics and Physics, Div. III (Special Radio)	..	1	3	1	..	5	5	..	..	..	..	4
Physics and Chemistry	..	4	..	..	..	4	4	..	..	1	..	..
Biological and Medical Sciences	..	2	2	1	2	7	7	..	..	..	..	..
Biology	..	1	2	2	..	5	5	..	..	..	..	3
Chemistry	..	2	1	2	3	8	8	..	..	1	..	..
Chemistry, Mineralogy and Geology, Div. I	..	3	..	..	..	3	3	..	..	..	..	..
Chemistry, Mineralogy and Geology, Div. II	..	3	..	..	..	3	3	..	..	..	..	..
Geology and Mineralogy	..	..	3	..	..	3	2	1	..	..	..	..
Household Economics	..	26	12	6	2	46	46	..	..	1	..	..
Physiology and Biochemistry	..	2	1	..	..	3	3	..	..	..	..	..
Commerce and Finance	..	24	18	6	4	52	51	..	1	..	1	11
Occasional Students	..	..	..	..	1	1	1	..	..	..	..	..
Totals	..	141	112	52	24	329	324	4	1	6	2	48

Pass Course for Teachers

	Passed	Conditioned	Total
August Examination	348	47	395
May Examination	403	42	445
Totals	751	89	840

Faculty of Medicine

	Passed	Conditioned	Failed
First Year	102	17	77
Second Year	108	12	15
Third Year	89	21	10
Third Year, Second Part	7	..	..
Fourth Year	98	10	1
Fifth Year	93	14	..
Sixth Year	113	2	..
Candidate for the Degree of B.Sc. (Med.)	1	..	..
Candidates for Diploma in Public Health (3 of these to complete Field Work)	16	2	..
Candidates for Diploma in Psychiatry	5	..	..
Occasional Students	3	..	..
Totals	635	78	103

Faculty of Applied Science and Engineering

	Passed with Honours	Passed	Conditioned	Failed
First Year				
Civil Engineering	13	28	30	14
Mining Engineering	2	7	5	7
Mechanical Engineering	11	30	34	17
Architecture	2	2	4	..
Engineering Physics	13	3	10	7
Chemical Engineering	13	45	19	20
Electrical Engineering	10	30	18	13
Metallurgical Engineering	2	9	13	15
Mining Geology	..	2	..	..
Second Year				
Civil Engineering	5	15	14	1
Mining Engineering	2	4	4	4
Mechanical Engineering	7	28	19	5
Architecture	3	1	3	..
Engineering Physics	5	5	7	5
Chemical Engineering	12	28	18	7
Electrical Engineering	7	15	6	4
Metallurgical Engineering	2	6	5	2
Mining Geology	..	..	1	..
Third Year				
Civil Engineering	2	11	10	2
Mining Engineering	5	12	4	..
Mechanical Engineering	10	23	9	1
Architecture	2	6	1	..
Engineering Physics	7	4	1	..
Chemical Engineering	13	19	12	7
Electrical Engineering	14	19	7	3
Metallurgical Engineering	2	7	6	1
Mining Geology	1	1	2	..
Fourth Year				
Civil Engineering	3	9	7	..
Mining Engineering	8	8	1	..
Mechanical Engineering	13	26	..	..
Architecture	4	3	1	..
Engineering Physics	5	3	1	..
Chemical Engineering	16	20	3	..
Electrical Engineering	5	12	3	1
Metallurgical Engineering	1	13	6	3
Mining Geology	1	1	2	..
Fifth Year				
Architecture	1	..	1	..
Totals	222	455	287	139

Total number examined—1,103

Faculty of Household Science

	Passed	Conditioned	Failed
First Year	1	1	2
Second Year	6	3	7
Third Year	15	2	6
Fourth Year	4	..	..
Supplementals	2	..	..
Occasional Student	1	..	..
Totals	29	6	15

Ontario College of Education

	Passed	Failed	Total Number of Candidates
*Teachers' Course—			342
High School Assistants' Course	285	..	
Specialists' Courses	111	..	
First Class Public School Course	14	..	
Elementary Art Course	15	..	
Elementary Commercial Course	29	..	
Educational Counselling Course	14	..	
Elementary Home Economics Course	6	..	
Elementary Vocal Music Course	24	..	
Elementary Physical Education Course	52	..	
Elementary Shop Work Course	6	..	
School Librarianship Course	5	..	
Intermediate Art Course	10	..	
Intermediate Home Economics Course	6	..	
Intermediate Vocal Music Course	10	..	
Intermediate Physical Education Course	21	..	
†Librarians' Course—			33
Candidates for Degree of B.L.S.	32	..	
Candidates for Diploma	1	..	
Bachelor of Pedagogy Course—			159
Candidates for Degree of B.Paed.	46	..	
Passed in part	86	..	
Number who failed in whole or part	..	78	

Faculty of Forestry

	Passed	Conditioned	Failed
First Year	7	4	2
Second Year	7	..	..
Third Year	7	3	2
Fourth Year	10	..	..
Totals	31	7	4

Faculty of Music

	Passed	Conditioned	Failed
First Year	3	..	..
Second Year	8	4	1
Third Year	9	11	1
Totals	20	15	2

*There are included 141 persons who were exempted from attendance and admitted to the final examinations.

†There are included 3 persons who were exempted from attendance and admitted to the final examinations.

Faculty of Dentistry

	Passed	Conditioned	Failed
First Year	33	7	1
Second Year	49	12	6
Third Year	36	11	..
Fourth Year	45	9	..
Fifth Year	40	..	..
Occasional Students	3	..	..
Dental Nurses	19	1	..
Totals	225	40	7

School of Law

	Passed	Conditioned	Failed
Bachelor of Laws Course	14	..	..
Master of Laws Course	3	..	..
Occasional student	1	..	..
Totals	18	..	..

School of Physical and Health Education

	Passed	Conditioned	Failed
Degree Course			
First Year	20	8	3
Second Year	9	2	3
Diploma Course			
Third Year	6	..	..
Fourth Year	4	..	..
The Margaret Eaton School	25	1	..
Totals	64	11	6

School of Social Work

	Passed	Conditioned	Failed
First Year	27	7	1
Second Year	16	3	1
Occasional students	17	..	..
Totals	60	10	2

School of Nursing

	Passed	Conditioned	Failed
Full-time students in the General (Diploma) Course			
First Year	16	2	..
Second Year	11	..	..
Third Year	23	2	..
Full-time students in Graduate certificate courses			
Public Health Nursing	50	3	..
Teaching and Supervision	29	..	..
Hospital Administration	2	..	..
Special Studies	2	..	..
Occasional students	3	..	..
Totals	136	7	..

Department of University Extension

	Passed	Conditioned	Failed
Occupational Therapy			
First Year	29	9	7
Second Year	52	6	..
Physiotherapy			
First Year	28	9	7
Second Year	32	2	..
Aerial Navigation			
Second Year	8	2	..
Radio Technique	9	..	..
Certificate Course in Business	33	3	..
Totals	191	31	14

The numbers examined in other departments of the University were as follows:

Ontario College of Pharmacy	185
Ontario Agricultural College	89
Ontario Veterinary College	58
Local Examinations in Music	12,963

IX. ADMISSION TO DEGREES

	Men	Women	Total
LL.D. (Honorary)	12	..	12
D. Eng. (Honorary)	1	..	1
Ph.D.	32	6	38
M.A.	64	7	71
M.S.	2	..	2
M.A.Sc.	6	..	6
M.E.	1	..	1
Mech.E.	1	..	1
D.Paed.	2	..	2
M.Sc.(Dent.)	2	..	2
LL.M.	1	..	1
M.S.A.	2	..	2
D.V.Sc.	2	..	2
B.A.	292	309	601
B.Com.	48	3	51
M.D.	115	8	123
B.Sc.(Med.)	1	1	2
B.A.Sc.	164	..	164
B.Arch.	1	..	1
B.H.Sc.	..	22	22
B.Paed.	43	3	46
B.L.S.	4	36	40
B.Sc.F.	10	..	10
Mus.Bac.	5	4	9
D.D.S.	39	1	40
B.Sc.(Dent.)	2	..	2
LL.B.	2	..	2
B.S.A.	91	2	93
B.V.Sc.	55	2	57
Phm.B.	71	9	80
Totals	1,071	413	1,484

X. ADMISSION TO DIPLOMAS AND CERTIFICATES

	Men	Women	Total
Aerial Navigation	7	..	7
Business	3	1	4
Dental Nursing	..	23	23
Librarianship	..	1	1
Nursing	..	110	110
Occupational Therapy	..	55	55
Physical Education	..	4	4
Physiotherapy	2	32	34
Psychiatry	3	2	5
Public Health	22	1	23
Radio Technique	3	6	9
Social Work	9	19	28
Totals	49	254	303

XI. GEOGRAPHICAL DISTRIBUTION OF STUDENTS

Faculty of Arts

	University of Toronto	University College	Victoria College	Trinity College	St. Michael's College	Totals
Ontario: (1) Province	309	351	314	130	115	1,219
(2) Toronto	411	577	473	228	148	1,837
Nova Scotia	1	3	1	..	..	5
New Brunswick	1	1	3	2	..	7
Prince Edward Island	..	1	..	..	..	1
Quebec	2	1	3	2	3	11
Manitoba	4	3	1	1	..	9
Saskatchewan	10	12	7	1	4	34
Alberta	14	9	5	3	1	32
British Columbia	11	3	1	..	2	17
United States	2	4	5	2	103	116
Elsewhere	3	9	10	11	1	34
Totals	768	974	823	380	377	3,322

The University

	Faculty of Arts	Faculty of Medicine	Faculty of Applied Science and Engineering	Faculty of Household Science	Ontario College of Education	Faculty of Forestry	Faculty of Music	School of Graduate Studies	Faculty of Dentistry	School of Law	School of Physical and Health Education	School of Social Work	School of Nursing	Department of University Extension	Registered Twice	TOTALS
Ontario:																
(1) Province	1,219	278	424	33	262	15	12	95	101	10	28	18	66	86	..	2,647
(2) Toronto	1,837	436	680	10	168	24	14	178	88	7	40	30	35	117	4	3,660
Nova Scotia	5	1	1	..	19	..	..	19	2	..	3	2	4	2	..	58
New Brunswick	7	8	3	..	2	..	..	13	3	..	2		1	1	..	40
Prince Edward Island	1	..	..	..	2	..	..	3	..	..	..	..	1	..	..	7
Quebec	11	10	7	..	6	..	2	10	..	..	2	1	1	4	..	54
Manitoba	9	6	6	..	..	..	..	14	28	..	2	9	7	4	..	85
Saskatchewan	34	45	3	2	8	..	..	11	30	..	..	8	5	4	..	150
Alberta	32	10	5	2	3	1	..	10	6	1	2	2	5	1	..	80
British Columbia	17	23	6	3	6	..	..	27	15	..	5	1	3	5	..	111
United States	116	2	2	..	2	..	5	30	2	..	..	2	9	3	..	173
Elsewhere	34	25	12	..	2	1	..	29	4	5	4	2	13	2	..	133
Totals	3,322	844	1,149	50	480	41	33	439	279	23	88	75	150	229	4	7,198

The Province of Ontario

	Faculty of Arts	Faculty of Medicine	Faculty of Applied Science and Engineering	Faculty of Household Science	Ontario College of Education	Faculty of Forestry	Faculty of Music	School of Graduate Studies	Faculty of Dentistry	School of Law	School of Physical and Health Education	School of Social Work	School of Nursing	Department of University Extension	Registered Twice	TOTALS
Algoma	19	9	8	..	3	2	..	..	2	1	..	..	3	1	..	48
Brant	29	9	8	..	7	..	1	1	1	..	1	..	7	..	..	64
Bruce	27	1	1	..	3	..	..	1	3	..	..	..	1	..	..	37
Carleton	63	15	12	2	21	1	..	5	7	..	2	1	..	6	..	135
Cochrane	21	2	11	..	9	..	..	1	1	..	..	1	..	..	..	46
Dufferin	8	3	4	..	1	..	..	..	1	..	..	1	..	..	..	18
Dundas	5	..	3	1	..	..	..	1	..	..	..	..	..	..	..	10
Durham	22	3	4	..	3	..	..	..	1	..	..	..	1	1	..	35
Elgin	9	2	7	..	7	2	1	..	1	..	..	..	2	..	..	31
Essex	50	19	20	2	12	..	..	6	7	..	..	1	3	1	..	121
Frontenac	1	1	1	..	4	..	1	3	2	..	..	3	..	1	..	17
Glengarry	3	..	1	..	..	..	..	1	..	..	..	..	..	..	..	5
Grenville	7	3	..	..	2	..	..	..	1	..	..	..	..	..	..	13
Grey	28	6	6	1	4	1	1	..	5	..	..	..	2	1	..	55
Haldimand	10	4	3	..	5	..	..	1	..	1	..	..	..	2	..	26
Haliburton	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Halton	27	5	6	1	3	..	..	..	2	..	1	..	3	6	..	54
Hastings	31	6	9	..	5	2	1	1	..	..	..	..	2	..	..	57
Huron	12	1	4	1	3	..	..	2	1	1	1	1	..	..	..	27
Kenora	6	7	2	..	1	..	..	1	..	..	..	..	1	..	..	18
Kent	15	7	7	1	5	..	..	3	4	..	1	1	..	2	..	46
Lambton	14	3	8	..	8	1	..	..	1	..	2	..	1	3	..	41
Lanark	8	..	1	..	2	..	..	1	3	..	..	..	1	..	..	16
Leeds	15	..	2	..	6	..	..	1	..	..	1	..	1	1	..	27
Lennox and Addington	6	..	..	..	1	..	..	..	..	1	..	..	..	..	..	8
Lincoln	39	7	18	1	8	..	..	3	3	..	1	..	1	8	..	89
Manitoulin	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	2
Middlesex	16	2	6	1	19	1	2	6	3	..	..	..	..	1	..	57

The Province of Ontario—*Continued*

	Faculty of Arts	Faculty of Medicine	Faculty of Applied Science and Engineering	Faculty of Household Science	Ontario College of Education	Faculty of Forestry	Faculty of Music	School of Graduate Studies	Faculty of Dentistry	School of Law	School of Physical and Health Education	School of Social Work	School of Nursing	Department of University Extension	Registered Twice	TOTALS
Muskoka	16	3	4	..	1	..	..	2	1	..	..	..	..	..	..	27
Nipissing	14	14	10	..	7	..	..	1	7	1	..	..	..	2	..	56
Norfolk	14	5	2	1	3	..	..	..	1	..	1	..	..	2	..	29
Northumberland	11	3	6	..	1	..	..	1	3	..	2	..	2	1	..	30
Ontario	34	12	10	1	8	..	..	..	1	..	1	1	1	3	..	72
Oxford	13	5	9	2	2	..	..	2	1	..	..	..	1	..	..	35
Parry Sound	11	2	2	..	1	1	..	..	1	1	..	..	..	..	..	19
Peel	38	4	14	1	4	..	1	..	3	..	1	..	4	6	..	76
Perth	28	3	7	3	5	1	..	1	2	..	..	1	..	1	..	52
Peterborough	37	1	3	..	1	..	..	3	..	..	..	..	3	3	..	51
Prescott	1	1	..	1	2	..	..	..	..	..	..	..	..	..	..	5
Prince Edward	6	..	..	1	1	..	..	..	..	..	..	..	..	..	..	8
Rainy River	1	2	..	..	..	..	..	2	1	..	..	..	..	..	..	6
Renfrew	15	1	1	..	1	..	..	1	1	..	..	..	..	..	..	20
Russell	1	..	..	..	1	..	..	1	..	..	..	..	..	..	..	3
Simcoe	58	20	15	2	8	..	1	5	6	..	2	1	5	2	..	125
Stormont	3	..	..	..	2	..	..	..	..	..	..	..	..	..	..	5
Sudbury	20	..	9	..	4	..	..	..	1	..	1	..	..	..	..	35
Thunder Bay	35	6	14	2	4	1	1	2	2	1	2	..	..	3	..	73
Timiskaming	20	6	9	..	4	..	..	2	2	..	..	..	2	3	..	48
Victoria	13	3	2	1	..	..	..	1	2	..	..	..	1	1	..	24
Waterloo	48	12	16	..	15	..	..	3	2	..	1	..	3	6	..	106
Welland	44	9	22	..	..	..	..	3	4	1	2	..	2	2	..	89
Wellington	33	6	13	2	5	..	1	11	4	..	1	..	3	3	..	82
Wentworth	60	17	34	3	29	..	1	13	5	1	1	5	4	4	..	177
York	151	28	70	2	11	2	..	3	2	1	2	1	6	10	..	289
Toronto	1,837	436	680	10	168	24	14	178	88	7	40	30	35	117	4	3,660
Totals	3,056	714	1,104	43	430	39	26	273	189	17	68	48	101	203	4	6,307

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